

Subject and Author Index to Volume 250

American Journal of Physiology

American Journal of Physiology:
Cell Physiology

American Journal of Physiology:
Endocrinology and Metabolism

American Journal of Physiology:
Gastrointestinal and Liver Physiology

American Journal of Physiology:
Heart and Circulatory Physiology

American Journal of Physiology:
Regulatory, Integrative and Comparative Physiology

American Journal of Physiology:
Renal, Fluid and Electrolyte Physiology

Page — Issue Guide
American Journal of Physiology
Volume 250

January	C1-C174	E1-E106	G1-G133	H1-H150	R1-R149	F1-F180
February	C175-C345	E107-E229	G135-G274	H151-H331	R151-R317	F181-F377
March	C347-C522	E231-E340	G275-G390	H333-H537	R319-R538	F379-F578
April	C523-C661	E341-E494	G391-G560	H539-H703	R539-R734	F579-F757
May	C663-C812	E495-E605	G561-G714	H705-H897	R735-R950	F759-F951
June	C813-C1002	E607-E756	G715-G870	H899-H1160	R951-R1150	F953-F1142

Subject Index to Volume 250

A

- A23187: *see* Ionophore A23187
- Abdominal visceral afferents, stimulation, substance P, 5-hydroxytryptamine, and bradykinin in, R465
- Acclimation: *see* Temperature; Seasonal acclimation, and the specific environmental condition
- A10 cells, muscle cells, calcium currents, H699
- A6 cells, epithelial organization, vasopressin response to, C138
- ACE: *see* Angiotensin-converting enzyme
- Acetaldehyde, treatment, pancreatic changes and, G598
- 4-Acetamido-4'-isothiocyanostilbene-2,2'-disulfonic acid, pancreatic acinar secretion, G140
- Acetate, pancreatic acinar secretion and, G140
- Acetazolamide
basolateral bicarbonate transport and, electrophysiology, proximal tubule, F267
cell pH and, measurement in proximal tubule, F203
pyruvate and lactate secretion and, pancreas, G398
- Acetoacetate
glutamine effect, during fasting, E248
ketone body metabolism, during fasting and exercise, E495
metabolism rate, starvation and diabetes, brain, E169
- Acetylcholine
contractile dose, calcium ion efflux and, G280
effect on contractile response, gastric muscle cells, G357
histamine release and, prostaglandin interactions, gastric glands, G607
multiple neuropeptides, single smooth muscle cells, C792
oxygen-derived free radicals
endothelium-derived relaxing factor and, H822
vascular smooth muscle, H815
relaxation, aortic rings, hypertension and, H711
release, myenteric plexus, G60
vagal control, gastric submucosal arterioles, G660
- Acetylcholine esterase, pentagastrin effects, gastrointestinal tract, G546
- Acetyl coenzyme A, to coenzyme A, sepsis, skeletal muscle and liver, E634
- Acetylsalicylic acid: *see also* Aspirin
prostaglandin release, transepithelial transport, calcium ionophores, C629
- Acid
extrusion, insulin release and sodium, intracellular pH regulation, C207
secretion, renal, carbon-dioxide-independent (dogfish), F288
titratable, buffer infusion, respiratory acidosis, F115
- Acid-base balance
cellular, gastric glands, G524
complete ischemia, brain, R348
deep hypoxia effects, ion transfer processes in (trout), R319
distal nephron, F1
functional variability of MDCK cells, C214
- hypoxia-induced lactic acidosis, amelioration of, F702
- systemic disorders, intracellular pH and ion transport in, G588
- transport, cellular origins, bladder (turtle), C609
- urea
formation and, F605
production, ammonium excretion and amino acid oxidation, F181
- Acidification
atrial natriuretic factor, glomerular filtration and, F710
chronic metabolic acidosis augmentation of, medullary collecting duct, F690
fluorescence, urinary bladder (turtle), F159
renal nerves, proximal reabsorption and, F22
urinary, acid-base transport, bladder (turtle), C609
- Acidosis
ATP depletion and, ischemic heart muscle, H503
bicarbonate and magnesium effects, dietary alteration, bone, F302
bone surface elements and, F1090
gradients in fiber shortening, ischemic left ventricular wall, H255
intracellular, cardiac sarcoplasmic reticulum, H360
lactic, hypoxia-induced, amelioration of, F702
metabolic
acidification and, inner medullary collecting duct, F690
glucocorticoids and renal responses in, F827
interorganal glutamine regulation, E457
intracellular pH of, proximal tubules, F1039
ureagenesis and, F605
pH effects, proximal tubule, basolateral membrane, F261
renal tubular, bicarbonate transport, F470
respiratory
buffer infusion during, F115
intracellular pH and, proximal tubule, F1039
surface pH, intracellular pH regulation, cardiac and skeletal muscle, C748
ureagenesis, ammonium excretion and amino acid oxidation, F181
- Acridine orange fluorescence
brush-border membrane vesicles, colonic, G781
sodium-hydrogen exchange
basolateral membrane vesicles, liver, G35
vascular smooth muscle, H313
- Acromegaly, insulin action defects, hepatic and extrahepatic, E269
- ACTH: *see* Adrenocorticotrophic hormone
- Actin, plasma membrane, carotid artery (cow), C65
- Actomyosin
cross bridges, skeletal muscle (frog), R56
intestinal muscle, after jejunoileal bypass, G70
- Acylcarnitine transferase, inhibitor of, myocytes, H853
- Acyltransferase, lecithin-cholesterol, cholesterol generation and (monkey), E265
- Adenine nucleotides
cell ATP produced by, kidney tubules, F720
cellular, resynthesis of, ATP-magnesium chloride effects, F834
metabolism, mitochondrial calcium transport following renal ischemia, F357
verapamil effects, heart failure (hamster), H22
- Adenosine
active hyperemia, skeletal muscle, H62
 α -adrenergic-stimulated respiration, brown adipocytes, C738
antagonism of forskolin effects, myocytes (guinea pig), H769
blood flow and glucose uptake, adipose tissue, H1127
chronic intrarenal infusion, renal hemodynamics and arterial pressure, awake state, F32
coronary flow regulation and, H1030
endothelial cell uptake of, skeletal muscle, H482
formation, oxygen ratio effects, heart (pig), H173
glomerular filtration, angiotensin control of, F917
hyperemic response of coronary blood flow and, microembolization, H509
- Adenosine deaminase
coronary autoregulation and, H558
coronary vasodilation and, systemic hypoxia, H579
- Adenosine diphosphate, ammonia metabolism and, muscle, C834
- Adenosine monophosphate, adenylate cyclase stimulation, shock and, myocardium, R358
- Adenosine monophosphate, cyclic acid-base transport, cellular origins, bladder (turtle), C609
antagonism of forskolin effects, myocytes (guinea pig), H769
antigen exposure and, jejunal, G427
atriopectin III and, glomeruli and proximal tubules, F27
AVP-dependent production, calcium effects, thick ascending limbs of Henle, F770
bronchiolar epithelium development, neonate, R783
calcium regulation, calmodulin activation, parotid gland, C642
cellular levels, α -adrenoceptor stimulation and, glomeruli, F103
cell volume regulation and, thick limbs, C907
chymotrypsin-treated platelets, proteolysis, H550
epithelial cell volume and, cytoskeleton of MDCK cells, C319
glucose oxidation, regenerated skeletal myotubes, C713
LLC-PK₁ cell clones, phenotypically stable subpopulations, C682
nucleotides, nephrogenic diabetes insipidus, F151
pepsinogen secretion and, esophageal mucosa (frog), G361

cAMP (continued)

- pepsin secretory response and, gastric glands, G200
- potential compartmentation, eicosonoids and β -adrenergic vasodilation, C406
- prostaglandin E₂ effects, DNA synthesis, vascular smooth muscle cells, C584
- protein kinase transport dependent upon, phosphorylation of, renal brush-border membranes, F659
- quinidine effects, colonic epithelial cell line, G806
- secretagogue-induced luteinizing hormone secretion, E62
- secretory sodium chloride, volume flow and, kidney tubules (flounder), R753
- sodium-potassium-chloride cotransport and, endothelial cells, C888
- sodium secretion, rectal gland (dogfish), F516
- stimulation, enzyme secretion, pancreatic acini, G698
- transport, ion stimulation, alveolar monolayers, C222
- vasodilation and, vasoactive intestinal peptides, H755
- vasopressin-stimulated, collecting tubule cells, F802
- VIP- and A23187-stimulated chloride secretion, barium inhibition, C486
- Adenosine triphosphatase
 - iodide transport, effects of sodium, thyroid cells (turtle), E464
 - membrane function, hypertension, vascular smooth muscles, C535
 - membrane mechanism, potassium-return relaxation, hypertension, C557
 - oligomycin-sensitive, ischemic heart muscle, H503
 - parotid secretion, sodium-chloride ion transport (sheep), F503
 - sodium-potassium-stimulated, plasma membrane, carotid artery (cow), C65
- Adenosine triphosphate
 - ammonia metabolism and, muscle, C834
 - effect on potassium efflux, adrenal glomerulosa cells, E125
 - extracellular effects, isolated hepatocytes, R573
 - inhibition, quinidine and, colonic epithelial cell line, G806
 - nucleotides, nephrogenic diabetes insipidus, F151
 - oligomycin and acidosis effects on, ischemic heart muscle, H503
 - pH-dependent, phosphofructokinase control in muscle, R71
 - produced by adenine nucleotides, renal tubules, F720
 - production, oxygen supply, intracellular diffusion gradients, C663
 - resynthesis of, postischemic ATP-magnesium chloride, F834
 - serotonin uptake, hypoxia, pulmonary artery endothelial cells, C766
- S-Adenosylmethionine decarboxylase, refeeding effects, enterocytes, G709
- Adenylate cyclase
 - β -adrenergic receptors and, mononuclear leukocytes, E583
 - α -adrenergic-stimulated respiration, brown adipocytes, C738
 - α -adrenoceptor stimulation and, glomeruli, F103
 - atriopeptin III effects, glomeruli and proximal tubules, F27

- AVP-dependent production, calcium effects, thick ascending limbs of Henle, F770
- calmodulin activation, calcium regulation, parotid gland, C642
- cardiac adaptations, exercise or dobutamine-induced, H725
- myocardial, β -adrenergic stimulation of, shock and, R358
- prostaglandin effects, cortical collecting duct, F127
- sodium-chloride transport, prostaglandin release, C676
- subunit interactions, radiation inactivation of multimeric enzymes, C103
- uremia, chronotropic responsiveness and, heart, H846
- vasodilation and, vasoactive intestinal peptides, H755
- vasopressin effects
 - epithelia, A6 cells, C138
 - subunit dissociation, C115
- ADH: see Antidiuretic hormone
- Adipocytes
 - brown
 - α -adrenergic-stimulated respiration, C738
 - differentiation from interstitial cells, cold acclimation and, C880
 - genotype dependency in metabolism adaptation, after overfeeding, E480
- Adipose tissue
 - adenosine effects, blood flow and glucose uptake, H1127
 - brown: see Brown fat
 - metabolism, exercise training effects, pregnancy and, R837
 - volume, determination by computed tomography, women, E736
 - white, glucose tolerance, synergistic improvement of, E607
- Adrenal cortex, cortisone secretion, ACTH exposure effects, E629
- Adrenalectomy
 - body sodium affected by, F551
 - cortisol-epinephrine interactions, glucoregulatory role after, E393
 - obesity development after, R595
 - pituitary-adrenal function, PVN-lesioned animals, E319
 - potassium disposal, calcium blockers and, F659
 - thermogenesis after, brown adipose tissue, E352
- Adrenal gland
 - aldosterone and cortisol secretion, H₁ action of histamine on, E523
 - atriopeptide localization, F753
 - blood flow: see Blood flow
 - corticosteroid secretion, effect of hydrogen ion concentration, E259
 - corticosterone effects, during development, G633
 - enucleation, sodium retention after, E1
 - norepinephrine turnover and, kidney, R567
 - regeneration, pituitary-adrenal function and, E87
- Adrenal hormone
 - control, renal adaptation, metabolic acidosis, F827
 - pulmonary uptake of exogenous polyamines, after unilateral pneumonectomy, E435
- Adrenal medulla, glycogenolysis, epinephrine effects, E641

- Adrenal steroids, ACTH and, control with angiotensin II and CRF interaction, R396
- Adrenergic control, blood pressure, development and, R188
- Adrenergic mechanisms
 - glucose oxidation, cyclic adenosine monophosphate, myotubes, C713
 - α -stimulated respiration, brown adipocytes, C738
- Adrenergic stimulation, potassium secretion and, descending colon, G432
- Adrenocorticotrophic hormone
 - adrenal steroids, control with angiotensin II and CRF interaction, R396
 - adrenal transplantation, pituitary-adrenal function and, E87
 - cortisol-induced inhibition of, fetus (sheep), R795
 - endocrine pulse detection, cluster analysis for, E486
 - naloxone effect, insulin-induced hypoglycemia, E236
 - plasma renin activity and, during hypoxia and hemorrhage, awake state, R240
 - release
 - hemorrhage effects, E76
 - hypothalamic PVN lesion effects, E319
 - renin control and, negative feedback, fetal and adult (sheep), R403
 - response to CRF infusion, fetus (lamb), E422
 - secretion, H₁ action of histamine on, E523
 - stimulation of corticosterone secretion, E629
- Adriamycin, direct effects, myocardial function, H419
- Afferent nerves, visceral fibers, abdominal, chemical stimulation of, R465
- Afterload, mechanism of mismatch, ventricular function and, awake state, H464
- Aggression, nerve growth factor and, adult male mice, E386
- Aging
 - carotid baroreflex function and, R1047
 - gastric mucosal permeability response, luminal hydrogen and bile salt, G617
 - prostate growth and, R1039
 - sexual loss and, males, R665
- Air, embolism, dural sinus pressure, H389
- Airway
 - muscle contractile behavior, hysteresis, C146
 - muscle tone regulation, calcium-dependent, myosin phosphorylation, C597
- Alanine
 - labeled carbon, gluconeogenesis estimation, E296
 - metabolism, dietary protein and energy intakes and, E39
- β -Alanine, secretion, kidney (snake), R712
- Albumin
 - cathepsin effects, proteinuria, nephron, F1355
 - glomerular permeability and, F901
- Aldosterone
 - ACTH and, control with angiotensin II and CRF interaction, R396
 - adrenocortical function and, during hypoxia and hemorrhage, awake state, R240

- atrial stretch and, awake state, R221
atriopeptin effects, kidney and adrenal gland, F753
diurnal potassium excretory cycles in, F930
effects, amiloride-sensitive sodium channel, C175
hypothalamic lesions and hemorrhage, R18
ion transport across alveolar monolayers and, C222
plasma, concentration, renal actions of vasopressin, H584
regulation, active sodium transport, A6 epithelia, models, C978
secretion
 adrenal, H₁ action of histamine on, E523
 effect of hydrogen ion concentration, E259
 sodium and potassium transport and, colon, F235
 sodium stimulation and, bladder, F273
 vasopressin infusion and, sodium-restricted dogs, F460
Alkaline, gastric response to stomach damage, endogenous prostaglandins, G842
Alkaline cell, fluorescence identification, urinary bladder (turtle), F159
Alkalinization
 cytoplasmic, insulin-induced, glucose transport, C720
 urinary, acid-base transport, bladder (turtle), C609
Alkalosis
 chloride-depletion, kidney and, F54
 respiratory
 amelioration of, F702
 renin, ACTH, and adrenocortical function during, awake state, R240
 ureagenesis, ammonium excretion and amino acid oxidation, F181
Alkyl-acetylglycero-phosphocholine, production, glomerular mesangial cells, F1123
Allergy, acquired resistance, gut motility in, G266
Allohemoglobin, interaction, whole blood (sheep), R298
Alloxan
 diabetic cardiomyopathy, reversal with insulin, H108
 hepatic portal injection, glucagon-induced feeding inhibition and, R882
Altitude, high, arterial wall and, R485
Alveolar cells
 type II
 β -adrenergic ligands, C871
 ion transport stimulation, C222
Amiloride
 ADH effects, rubidium transport, cortical collecting tubules, F1063
 analogues
 anti-amiloride antibodies, C165
 antiporter characteristics, F539
 proximal tubule inhibition, C744
 apical membrane ionic permeability and, proximal convoluted tubule, F339
 chloride secretion, prostaglandin effects, renal epithelial cells (toad), F511
 conductive properties, collecting duct, F70
 effect on kallikrein, urinary and renal, F400
 effect on parotid secretion (sheep), F503
 electroneutral bicarbonate secretion, gallbladder, C617
 functional variability of MDCK cells, C214
 iodide uptake, cultured thyroid cells (turtle), E464
 pancreatic acinar secretion and, G140
 potassium transport, sodium transport inhibition and, cortical collecting tubule, F120
 sarcolemmal vesicles, superior mesenteric artery, H313
 sodium, chloride, and potassium transport, distal tubules, F1013
 sodium absorption and, developing colon, G221
 sodium channel and, C175
 sodium transport inhibition, protein kinase C activators, A6 epithelia, C517
 sodium-hydrogen exchange
 antiporter activity and, parathyroid hormone inhibition, F217
 basolateral membrane vesicles, liver, G35
 bicarbonate exchange and, gastric glands, G524
 neutrophils, C283
 transport, distal colon, neonatal, G754
Amines, thermoresponsive neurons and, brain stem, R553
Amino acids
 blood, free fatty acid effects, E686
 branched-chain
 plasma and tissue parameters, E615
 skeletal muscle, E599
 chloride transport and, intestinal (snake), G109
 cholecystokinin release and, control of pancreatic secretion, G391
 disposal, splanchnic and leg tissues compared, E407
 exocrine pancreatic response to, CCK effects, G553
 isometric contraction and, muscle, C834
 metabolism, λ -carrageenan injury and, skeletal muscle, E24
 oxidation, ureagenesis, ammonium excretion and acid-base balance, F181
 plasma, insulin dose-dependent reductions, E13
 secretion, renal (snake), R712
 sodium-coupled transport and, proximal tubules, F953
 transport, ionic requirements of, kidney (fish), R984
 voluntary diving and (seal), R175
 α -Aminobutyric acid, VIP release, cerebral cortex, R104
 γ -Aminobutyric acid
 baroreceptor-mediated sympathoinhibition, involvement in, R1065
 C₁ neurons, cardiovascular responses from ventral medulla and, R932
 Aminoglycoside, voltage-dependent blockade, sarcoplasmic reticulum potassium channel, C361
 p-Aminopyrurate
 dibucaine stimulation of, kidney cortical slices, F785
 occluding junctions, LLC-PK₁ cells, F734
 Aminopeptidase, somatostatin binding and, membrane vesicles, gut (pig), G679
 4-Aminopyridine, gap junction formation, arachidonic acid metabolites, trachea, C495
Aminopyrine
 accumulation, histamine release and, prostaglandin interactions, gastric glands, G607
 clearance, pentagastrin infusion and, gastric mucosa, G575
Ammonia
 chronic metabolic acidosis and, inner medullary collecting duct, F690
 glutamine flow regulation, metabolic acidosis, E457
 metabolism, muscle isometric contraction and, C834
 production, effect of high carbohydrate diet, E156
Ammoniogenesis
 acidosis effects, proximal tubule, F1039
 kidney, high carbohydrate diet and, E156
 potassium depletion and, renal mitochondria, F667
Ammonium
 depletion, ouabain effects on parotid secretion (sheep), F503
 excretion
 metabolic acidosis and, F827
 ureagenesis, amino acid oxidation and acid-base balance, F181
 substrate for Na⁺-K⁺-ATPase, proximal tubules (rabbit), F497
 urea formation and, F605
Amniotic fluid
 arginine vasopressin levels, fetal recirculation (sheep), E253
 concentrations, diffusion permeability, human placenta (guinea pig), R459
 osmolality, fetal renal contribution to, maternal hypertonicity (ewe), R235
Amphiphile, anionic, augmentation of sarcolemmal calcium by, H247
Amphotericin B, functional variability of MDCK cells, C214
Amylase
 pancreatic, jejunum deprived of, glucose polymer absorption, G824
 release, peripheral tissues, G856
 secretion
 cholecystokinin effects, pancreas, G405
 cholecystokinin receptor maturation and, pancreatic acini, G594
Anal sphincter, force measurements in, G260
Anaphylaxis, myoelectric activity, intestinal immunity and, G266
Anemia, iron-deficient, glucose turnover and oxidation in, E414
Anesthesia, flow measurement in, microspheres, H137
Anesthetics, local, p-aminohippurate stimulation of, kidney cortex, F785
Angiotensin
 central infusion, neurohumoral contributions to, H52
 control of glomerular filtration, adenosine effects, F917
 control of sodium excretion, R960
 dehydration and rehydration, R898
 drinking and (fish), R1034
 extraction, gill (trout), R532
 receptor: see Receptors
 secretion, renal plasma and lymph, E55
 water drinking, ablation of subfornical organ (sheep), R1052

- Angiotensin-converting enzyme, hypoxia and hypercapnia effects, cerebral microcirculation, H806
- Angiotensin II
atrial natriuretic factor responses to, hypertension, H871
atriopeptin effects, kidney and adrenal gland, F753
baroreflexes and, nucleus tractus solitarius, R193
blood pressure inhibition, renal hemodynamics, pregnancy, F308
captopril inhibition, plasma ADH, prostaglandin synthesis, and renal function, F986
central actions of, suppression of sodium appetite and, R251
concentration, central and systemic, osmoregulatory control of, R918
constant pressure servo-system, kidney, F744
CRF interaction, control of ACTH and adrenal steroids, R396
effect on potassium efflux, adrenal glomerulosa cells, E125
glomerular size and, prostaglandin effects, F348
osmotic regulation of vasopressin and, R287
peptide hormone effects, renal tubular cells, F790
prostaglandin release and, glomerular, F811
renal vascular activity and, hypertension, H1043
renin release inhibition, protein kinase C, C563
stimulation of norepinephrine uptake, hypothalamus-brain stem cultures, C236
vascular, β -adrenoceptor-mediated release, H144
- Angiotensinogen, mRNA, RNA-DNA dot-blot hybrids, F374
- Anions
stimulation, renal cortical endocytotic vesicles, F817
transport
bicarbonate secretion, gallbladder, C617
butyric acid, small intestine, G469
pancreatic acinar secretion and, G140
- Anisomycin, circadian clock, eye (*Aplysia*), R5
- Ankyrin, neural cell spectrin skeleton and, C347
- Anorectic drug, feeding and gastric emptying (monkey), R764
- Anorexia, epinephrine-induced, ontogeny, R313
- Anoxia
endocochlear potential and (gerbil), R493
extracellular ATP effects, isolated hepatocytes, R573
myocytes, mitochondrial function and intracellular calcium, C18
stress protein systems, mammalian cells, C1
- Anthracycline-9-carboxylic acid, inhibition of chloride secretion, colon, G185
- Antibodies
monoclonal
characterization to renal cortical cells, C506
- protein analysis in pulmonary surfactant, C460
- sodium-potassium-ATPase, kidney, C896
- Anticoagulants, heparin-like molecules, mast cell deficiency, H879
- Antidiuretic hormone: see also Vasopressin
bladder treated with, water permeability in (toad), F845
dependency, nephron heterogeneity and, thick limbs, C907
kallikrein and, renal function, F1082
methionine-enkephalin and, spontaneous hypertension, R1007
osmoregulation, effect of ovarian sex steroids, E352
osmotic regulation of, sodium depletion and angiotensin II effects, R287
plasma, captopril inhibition of angiotensin II, F986
prostaglandin effects, cortical collecting duct, F127
receptors: see Receptors
regulation
awake state (cockerel), R644
water deprivation and, awake state (cockerel), R658
release, prostaglandin effects, awake state, R1028
rubidium transport and, cortical collecting tubules, F1063
syndrome of inappropriate secretion, osmoregulation of vasopressin and oxytocin, R444
therapy, diabetes and, enhanced noradrenergic activity in kidney, R567
- Antigens, exposure, jejunal response to, G427
- Anti-inflammatory drugs, dose-response relations, electromechanical activity, ileum, G135
- Antinatriuresis, neurogenic, development of cardiac tamponade, H195
- Antiport, sodium-hydrogen, renal proximal tubular cell, F539
- Antipyrine, clearance, placental growth restriction and blood flow (ewe), R427
- Antrum
gastric
gastrin-releasing decapeptide effects, G581
intracellular pH, microelectrode technique measurement of (salamander), G625
motor activity, interdigestive migrating complex, G165
resistance, acid secretion (frog), G639
- Aorta
contractile response to ouabain and sodium, hypertension, H612
dilation sequence, hypertension and, H662
isometric force, forskolin and cyclic nucleotide effects, C468
pressure: see Pressure
rings, relaxation, H711
vasa vasorum, blood flow through, H434
- Aortic endothelium
calcium homeostasis, platelet activating factor alteration of, H1086
equivalent pore size for, H16
- Aortic nerve, afferent interactions, dorsal medulla, R580
- Aortic stenosis, heart rate and, awake state, H159
- Aortic wall, creep, acute baroreceptor resetting and, H149
- Apical membrane
ionic permeability, proximal convoluted tubule, F339
surface potential, amiloride-sensitive sodium channel, C175
transference numbers, ionic permeability, proximal convoluted tubule, F339
- Apolipoproteins, pulmonary, surfactant, C460
- Apoptosis: see Cells, death
- Appetite: see Feeding
- Aprotinin
diltiazem-induced natriuresis and, renal kinin-prostaglandin, F197
kallikrein activity and, urinary, F1082
- Arachidonate, metabolism, role in prolactin release, E288
- Arachidonic acid
chloride secretion and, tracheal epithelium, F47
flow-dependent dilation, methylene blue and ETYA blocking of, H974
glomerular size and, angiotensin and prostaglandin effects, F348
hydrogen peroxide production, phagocytizing mesangial cells, F596
metabolism in gap junction control, trachea, C495
osmolality, cAMP, and prostaglandin E_2 and, collecting tubules, F802
oxygen reactivity, arteriolar, H1102
prostaglandin E_2 synthesis and, cycloheximide effects, burn injury, R207
prostaglandin release, sodium-chloride transport, MDCK cells, C676
- Arginine, insulin-to-glucagon molar ratio, cold acclimation and, E669
- Arginine vasopressin: see Vasopressin
- Arginine vasotocin: see Vasotocin
- Arrhythmias
digitalis, sinus node, H567
endocardial, plunge electrode system, H530
- Arrhythmogenesis, atrioventricular valve, heart, H397
- Arsenazo III
cytosolic free calcium and alkali metal-hydrogen exchange, *Amphiuma* volume regulation, C423
measurement of calcium release rate, skinned skeletal muscle fibers (frog), C245
- Arterial wall, morphology, high-altitude effects, R485
- Arteries: see also specific artery
elasticity, nonlinear, noninvasive measurement of, H181
- Arterioles
coronary, regulating basal tone, adenosine and, H1033
gastric, noncholinergic dilatation, vagal control of, G660
myocardial, β -adrenergic receptor affinity for dihydroalprenolol, H490
oxygen reactivity, prostaglandin effects, H1102
response to oxygen, development of hypertension, H761
- Ascites, chloride-cation cotransport sites, bumetanide measurement, C688
- Ascorbate, absorption, intestinal (guinea pig), G461
- Ascorbic acid
monosaccharide transporter, vitamin C

uptake, placental membrane vesicles, C637

transport
ileum (guinea pig), G461
kidney, F627

Aspirin: *see also* Acetylsalicylic acid
prostaglandin E₂ release and, burn injury, R207

ATPase: *see* Adenosine triphosphatase;
Calcium-ATPase; Hydrogen-potassium-ATPase; Sodium-potassium-ATPase

ATP: *see* Adenosine triphosphate

Atrial natriuretic factor: *see* Natriuretic factor

Atria: *see* Heart atria

Atriopeptide, receptors: *see* Receptors

Atriopeptin
atrial natriuretic factor effects, pregnancy, R589
infusion, left atrial stretch comparison, awake state, R221

Atriopeptin II, glomerular filtration rate and, kidney glomerulus, F1119

Atriopeptin III
atrial stretch, sodium excretion and, R946
cGMP and, glomeruli and proximal tubules, F27

Atrioventricular junction, anterograde/retrograde conduction, heart, H43

Atrioventricular valve, leaflets, automaticity in, H397

Atrophy, intercellular electrical coupling and, intestinal smooth muscle, C292

Atropine
cholecystokinin release and, control of pancreatic secretion, G391
salivary responses, gastric acid secretion and, G85
vagal control, gastric submucosal arterioles, G660
vagal nerve stimulation pretreatment, effect on somatostatin secretion, E212

Auditory pathway, external and intrauterine stimulation, brain stem, fetus (sheep), R137

Auriculin, renal effects, atrial natriuretic factor and, F520

Autocorrelation, LH secretion, interval sequence analysis by, E338

Automaticity, atrioventricular valve leaflets, heart, H397

Autonomic nervous system
calcitonin gene-related peptide actions, gastric acid secretion, awake state, G742
chronic decerebration, insulin secretion in, R539

Autoradiography
cardiac β -adrenergic receptor affinity, dihydroalprenolol, H490
epidermal growth factor binding sites, adult liver, G760
indomethacin effects, gastric mucosal cell turnover and, G830
in vitro, localization of atrial natriuretic peptide binding sites, kidney, F573
ketone body utilization, starvation and diabetes, E169

Autoregulation
arteriolar response to oxygen, hypertension and, H761
blood flow, skeletal muscle, H828
coronary, adenosine role in, H558

microvascular pressure, skeletal muscle venules, H838

reactive hyperemia, following one-beat coronary occlusion, awake state, H474

renal, frequency domain analysis, F364

AVP: *see* Vasopressin, arginine

Awake state
aortic stenosis, heart rate and, H159
arginine vasotocin regulation (cockere), R644
atriopeptin infusion, left atrial stretch comparison, R221
augmented catecholamine uptake, heart, during hemorrhage, H76
chronic intrarenal adenosine infusion, renal hemodynamics and arterial pressure during, F32
chronic vasopressin infusion, cardiovascular and renal responses to, H584
development of chronic heart failure, ventricular excitability during, H1022
gastric acid secretion, CNS actions of calcitonin gene-related peptides on, G742
glutamine role, lipolysis and ketogenesis of fasting, E248

hypoxia
hemorrhage and, renin and ACTH activity during, R240
sinoaortic denervation and, peripheral circulatory responses (sheep), R868
iliac vasoactivity, endothelial-mediated, H892

one-beat coronary occlusion, reactive hyperemia following, H474

preload reserve, ventricular function and, H464

renal failure, endotoxemic acute, F1098

renal hemodynamics, intermittent feeding effect, F566

renin secretion, vasopressin role in, F92

thermoregulation, ventromedial hypothalamus, R560

vasopressin release, prostaglandin effects, R1028

water deprivation, regulation of arginine vasotocin (cockere), R658

Axoplasm, *Myxicola*, calcium and proton buffering and diffusion, C391

B

Barium
ADH effects, rubidium transport, cortical collecting tubules, F1063
apical membrane ionic permeability and, proximal convoluted tubule, F339
conductive properties, collecting duct, F70
functional variability of MDCK cells, C214
inhibition of VIP- and A23187-stimulated chloride secretion, T₈₄ cell monolayers, C486
potassium fluxes and, distal tubules, F885
potassium transport and, proximal colon, G475
resistance and, fundus and antrum (frog), G639

Basal metabolism, factors regulating, heart, H998

Base, weak, estimation of cellular pH gradients, C418

Basolateral membrane
anion transport, kidney tubule, F419
calcium transport, intestine, G561
chloride and potassium transport, functional heterogeneity (snake), F430
potential, bicarbonate transport, proximal tubule, F267

renal
phorbol ester-stimulated phosphorylation, F1073
urea transport, F633
sodium-hydrogen exchange
chloride-bicarbonate exchange and, C920
liver, G35
sodium pump, sodium stimulation by aldosterone, F273
somatostatin binding, intestine (pig), G679

Bay K 8644, interaction, pituitary cells, C95

Behavior
aggression, nerve growth factor and, E386
sexual, correlates of loss, aging and, male, R665
spontaneous motor activity, circulatory changes during, H426

Benzamil, anti-amiloride antibodies, C165

Benzolamide, capillary reabsorption, proximal tubules, F169

Bethanechol, pepsinogen secretion, seasonal variations in, esophageal peptic glands (frog), G484

Bicarbonate
absorption, chloride transport and, proximal tubule, F1046
basolateral transport, electrophysiology, proximal tubule, F267
changes, complete brain ischemia, R348
dietary effects, magnesium and, bone, F302
electrolyte transport, retinal pigment epithelium, F781
pH sensitivity, proximal tubule, basolateral membrane, F261
potassium conductance and, retinal pigment epithelial cells (cow), C124
reabsorption, proximal, neurogenic regulation of, F22
secretion, electroneutral, gallbladder, C617
sodium-hydrogen exchange and, gastric glands, G524

transport
microperfusion study, renal tubular acidosis, F476
osmotic diuresis, proximal tubules, model, F874
urea formation and, F605

Bile, formation, basolateral membrane vesicles, G35

Bile acids
calcium effects, intestine, G248
duodenal delivery, fasting intestinal motor activity and, G836
enterohepatic circulation, diurnal pattern (pig), G295
free, taurocholate absorption and, ileum, G648
interactions, intestinal, G420

Bile salts
calcium effects, intestine, G248
permeability response to, gastric mucosa, G617

Biogenetics, intracellular diffusion gradients, oxygen, adenosine triphosphate, C663
 Bladder: see Urinary bladder
 Blockade
 adrenergic, exercise and, R1060
 α -adrenergic
 cardiovascular responses to static exercise and, R1
 coronary flow, running and, H1117
 aminoglycoside, potassium channel, sarcoplasmic reticulum, C361
 barium, corneal epithelium (bullfrog), F850
 calcium entry, histamine-induced protein leakage, hypertension and, H284
 ganglion
 electrical stimulation, subfornical organ, R1117
 spontaneous motor activity, H426
 opiate-receptor, glucoregulation and, E236
 prostaglandin, renal denervation and, F895
 vagal, gastrointestinal motility, G501
 Blood
 constituents: see specific constituent
 continuous densitometry, fluid shifts after hemorrhage, H342
 loss
 adrenocorticotropin release and, E76
 potentiation of hemorrhage-evoked catecholamine release, E18
 sympathoadrenal catecholamine release and, E69
 oxygen equilibrium curve shape, allohemoglobin interaction and (sheep), R298
 sampling, method for, E325
 transfusion, method for, E325
 viscosity, circulation and plasma renin activity, kidney, F40
 volume: see Volume
 Blood-brain barrier
 glucose transport, R127
 osmotic, opening to monoclonal antibody, R875
 permeability, ketone body utilization and, E169
 vasa vasorum, H434
 venules, skeletal muscle, H828
 Blood flow: see also Circulation;
 Microcirculation
 adenosine effects, adipose tissue, H1127
 adrenal medullary and cortical, during hemorrhage, H954
 baroreceptor control of, jejunal, G736
 capillary, glucose metabolism, brain, R127
 cerebral
 hypocapnia and hypercapnia effects (geese), R499
 hypoxia and sinoaortic denervation effects, awake state (sheep), R868
 monitoring, H305
 sympathetic effects during normocapnia, H498
 coronary
 hyperemic response of, adenosine role in, H509
 molecular flow marker, H1060
 cutaneous, postocclusive reactive hyperemia, H765
 gastric, pentagastrin and, G575

gastric mucosal, limitations, acid secretion and, G794
 gastrointestinal, chronic portal hypertension effects, G535
 jejunal, thromboxanes and, G64
 leg, dehydration and heat stress (ba-boon), R30
 limitation of, gastric acid secretion and, G794
 local control, oxygen and, spontaneous hypertension, H761
 mesenteric, hemodilution and hemoconcentration effects, H908
 metabolic control of, adenosine effects, adipose tissue, H1127
 muscle, bilateral stenosis, training effects, H1050
 myocardial
 during tachycardia with left ventricular hypertrophy, H968
 gradients in fiber shortening, ischemic left ventricular wall, H255
 phase of contraction during ischemia, H778
 superoxide dismutase and catalase effects, H372
 transmural, adrenergic antitransmural steal, H645
 neurohypophyseal, hypoxia and hypercapnia effects, H7
 oxygen delivery and, skeletal muscle, E449
 pancreatic tissue oxygenation and, during secretory stimulation, G316
 regional, thyrotropin-releasing hormone in hypovolemia, H1093
 renal
 adenosine-angiotensin II, F917
 adenosine effects, F32
 angiotensin and, R960
 frequency response of autoregulation, F364
 glomerular, single nephron obstruction, F77
 hypertension and, H1043
 intermittent feeding effects, F566
 left atrial stretch effects, awake state, R221
 ouabain effects, F109
 renin secretion, atrial peptide effects, F798
 responses to hypoxemia (lambs), F294
 thromboxane synthetase inhibition, hydronephrotic kidneys, F282
 role of thromboxane, spontaneous hypertension, F488
 umbilical
 midgestation (lamb), E538
 placental growth restriction effects (ewe), R427
 reductions, oxygen consumption, fetus (sheep), H1037
 umbilical vein, reduction, oxygen consumption and, fetal (sheep), H1037
 uterine
 endogenous hormone effects, pregnancy (ewe), R365
 placental growth restriction effects (ewe), R427
 uteroplacental (ewe), R1099
 wall layers, small intestine, G670
 Blood pressure: see also Pressure
 adrenergic control, development, R188
 angiotensin extraction, gill (trout), R532
 angiotensin II

effects, nucleus tractus solitarius, R193
 inhibition and, renal hemodynamics, pregnancy, F308
 arterial
 angiotensin II inhibition, pregnancy, F308
 vasopressin effects, plasma renin activity, sodium-restricted dogs, F460
 atrial natriuretic factor effects, pregnancy, R589
 changes, taurine in DOCA-salt rats, R1007
 control, fastigial nucleus stimulation and, R418
 during large volume blood sampling, new protocol, E331
 endotoxemia, renal failure, awake state, F1098
 fastigial nucleus brain stem lesions, H231
 heart rate and, endorphin effects, H796
 high, sensory denervation of kidney and, H82
 hypercalcemia and parathyroid hormone effects, renal failure, F924
 hypertension models, refined carbohydrate effect, E381
 hypoxia and hemorrhage, renin and ACTH during, awake state, R240
 lowering calcium and, nucleus tractus solitarius, H226
 regulation
 angiotensin and, R960
 C₁ neurons, R932
 electrical stimulation of preoptic recess, H221
 maintenance of, aging and, R1047
 spontaneous motor activity and, arterial baroreflexes in, H426
 sympathetic nervous system and, maintenance, R770
 Body
 composition
 exercise training effects, pregnancy, R837
 neutron activation, E179
 sex differences, E736
 fat: see Fat
 fluid: see Fluid
 mass: see Mass
 tonicity, ovarian steroid effect on osmoregulation, E352
 water: see Water
 weight: see Weight
 Bohr factor
 carbon dioxide
 erythrocyte metabolism and (chicken), R260
 whole blood (sheep), R298
 Bombesin
 antral muscle and, G581
 multiple neuropeptides, single smooth muscle cells, C792
 pepsinogen secretion and
 esophageal mucosa (frog), G361
 seasonal variations in, esophageal peptic glands (frog), G484
 receptors: see Receptors
 VIP receptor antagonist and, G553
 Bone
 crystal growth, bicarbonate and magnesium effects, diet changes, F302
 development, vitamin D effects, neonate, E725

growth, longitudinal, local administration of GH and IGF-1, E367
 loss, oophorectomy-induced, calcitrol effects, E35
 mineralization, ovine prolactin effects (tilapia), R161
 surface elements, acidosis effects, F1090
Bradycardia
 aortic stenosis and, awake state, H159
 calcium lowering and, nucleus tractus solitarius, H226
Bradykinin
 abdominal visceral afferent stimulation, R465
 indomethacin-furosemide antagonism and, F980
 interaction with prostaglandin E₁, cardiac sympathetic afferents, R815
 stimulation, sodium-potassium-chloride cotransport, cultured endothelial cells, C888
Brain
 acid-base homeostasis, complete ischemia and, R348
 blood flow: see Blood flow, cerebral flow measurements, anesthesia, microspheres, H137
 glucose metabolism, model, R127
 pantothenic acid transport, R292
 spectrin, neural cell skeleton, review, C347
 surgery, dural sinus pressure, H389
 synaptosomes, uremia, R306
 temperature changes, interleukin 1-enhanced sleep, R96
 tumor, osmotic blood-brain barrier opening, R875
 water and electrolytes, hyponatremia, R444
Brain stem
 auditory response, fetus (sheep), R137
 baroreflexes, angiotensin II effects, nucleus tractus solitarius, R193
 caudal, chronic decerebration, insulin secretion in, R539
 lesions, cardiovascular response and, fastigial nucleus, H231
 neuronal cultures, hypothalamus and, angiotensin II-stimulated norepinephrine uptake, C236
 thermoresponsive neurons, amine effects, R553
8-Bromoguanosine 3',5'-cyclic monophosphate, isometric force in aorta, forskolin and cyclic nucleotide effects, C468
Bronchiolar epithelium, development of, R783
Brown fat
 adrenalectomy effects, R595
 cold adaptation, C228
 denervation, dietary obesity, R1108
 dystrophy, cold-acclimation effects (hamster), R167
 norepinephrine turnover and guanosine diphosphate binding, diet and photoperiod effects (hamster), R383
 sympathetic and thermogenic activity, dissociation of (hamster), R389
 thermogenesis
 energy balance and, ovarian hormone effects, R245
 energy balance and, pregnancy (hamster), R845
 sympathetic activity and, after adrenalectomy, E352

Brush-border membrane
 anion transport, basolateral vesicles, F419
 calcium transport, intestinal, G561
 enzymes, postnatal maturation and, enterocytes, G177
 monoclonal antibody characterization, renal cortical cells, C506
 nicotinic acid, renal transport, metabolism, C694
 protein kinase transport, cAMP-dependent, phosphorylation of, F659
 renal
 inorganic phosphate transport, F470
 phorbol ester-induced alkalinization, F451
Brush-border membrane vesicles
 colonic, sodium-hydrogen exchange, G781
 metabolic acidosis effects, renal transport, F827
Buffering power, surface pH, intracellular pH regulation, cardiac and skeletal muscle, C748
Bumetanide
 binding, chloride-cation cotransport sites, Ehrlich cells, C688
 potassium transport and, proximal colon, G475
 sodium, chloride, and potassium transport, distal tubules, F1013
 sodium-chloride transport and, urinary bladder epithelium (trout), R227
 sodium-potassium-chloride cotransporter, LLC-PK₁/Cl₄ cells, C799
Burimamide, potassium selectivity and, gastric luminal membrane (frog), G765
Burn injury, cycloheximide, prostaglandin E₂ and muscle proteolysis, R207
Butaclamol, glomerular filtration rate and, kidney, F674
Butoxamine hydrochloride, potassium disposal and, extrarenal, F650
Butyric acid, transport, small intestine, G469
Bypass
 intestinal, intercellular electrical coupling and, C292
 jejunoileal, intestinal muscle after, G70

C

Cadmium, uptake, clonal variation, tumor cell lines, C256
Caerulein, trophic effects of, pancreatic acinar cells, G440
Caffeine
 comparison with ryanodine, ventricular myocardiocytes, H786
 inositol triphosphate, calcium release from muscle, C807
Calcification, shell, water and electrolyte composition (turtle), R1133
Calcitonin
 gene-related peptide
 CNS actions, gastric acid secretion, awake state, G742
 neurotransmitter, right atrium (guinea pig), H693
 inhibition of gastric acid secretion, G127
 intracerebroventricular, renal hydro-mineral excretion and (sheep), R980
 LLC-PK₁ cell clones, phenotypically stable subpopulations, C682

VIP receptor antagonist and, G553
 water and electrolyte secretion by, jejunum, G172
Calcitrol, bone loss and, oophorectomy, E35
Calcium
 absorption, reduction by chlorthalidone, F396
 acidosis effects, bone, F1090
 acute renal failure and, F579
 alkali metal-hydrogen exchange and, *Amphiuma* volume regulation, C423
 antagonist
 coronary arteries and, H718
 interaction, pituitary cells, C95
 prostaglandin-induced vasoconstriction reversal, F619
 sodium and chloride transport, ileal, G691
 AVP-dependent cAMP production and, thick ascending limbs of Henle, F770
 bile salts and, intestine, G248
 buffering, intracellular, *Myxicola* axoplasm and, C391
 calmodulin and, kallikrein and tonin release, submandibular gland, C480
 cell, angiotensin effects, vascular smooth muscle cells, F759
 cell ATP, produced by adenine nucleotides, kidney tubules, F720
 cellular regulation, endotoxic shock, liver, R884
 chloride secretion, barium inhibition, T₈₄ cell monolayers, C486
 chronotropic responsiveness, uremia and, heart, H846
 cytosolic, tubuloglomerular feedback responses, F715
 cytosolic free concentration, cultured renal epithelial cells, F329
 depletion, basal metabolism and, heart, H998
 diffusion, intracellular, *Myxicola* axoplasm and, C391
 electrolyte handling, superficial nephron, F590
 extracellular
 ATP effects, isolated hepatocytes, R573
 mechanical activity and, skeletal muscle, C40
 fertilization potentials and, inositol triphosphate injection (sea urchin eggs), C340
flux
 angiotensin II effect, adrenal glomerulosa cells, E125
 dopamine effects, E731
 glutathione metabolism affected by, PTH secretion and, E475
 heterogeneous responses to, sarcolemmal heart mitochondria, H741
 homeostasis, platelet activating factor alteration of, vascular endothelial cells, H1086
 inotropy and relaxation, myocardium, H1008
 intracellular
 mitochondrial function and, anoxic cardiac myocytes, C18
 sodium and chloride transport and, ileum, G691
 volume regulation and (toad), C841
 loading, renal excretion and, chick (gull), R41

Calcium (*continued*)

- lowering, nucleus tractus solitarius, hypotension and bradycardia, H226
mitochondrial uptake, coupled sodium-calcium transport in cultured heart cells (chick), C442
mobilization
 prolactin release, arachidonate metabolism role, E288
 vibration effects, cutaneous artery, H519
myogenic tone, ear resistance arteries, H87
myosin phosphorylation
 dependence, airway muscle tone, C597
 striated muscles, C657
paradox, myocyte ultrastructure and function, H265
parathyroid hormone actions and, kidney proximal tubules, F942
passive permeability to, erythrocytes, C26
plasma concentration, effects on renal handling of chloride and bicarbonate, F441
potassium efflux and, erythrocytes, C55
protein degradation and, heart, C932
protein turnover and, skeletal muscle, E702
regulation, calmodulin activation, adenylate cyclase, C642
release
 inositol triphosphate, skinned cardiac and skeletal muscle, C807
 sarcoplasmic reticulum, caffeine and ryanodine effects, H786
 synthetic atrial peptide effects, smooth muscle, C171
 release rate, skinned skeletal muscle fibers, measured with arsenazo III, C245
 renal transports, metabolic acidosis and, F827
 renin release inhibition, protein kinase C, vasoconstrictors, C563
 sarcolemmal, augmentation by anionic amphiphile, H247
 skeletal development and, neonate, E725
 sodium-potassium-chloride cotransport and, endothelial cells, C888
 stimulation, enzyme secretion, pancreatic acini, G698
 transients, smooth muscle cells, quin 2, C779
transport
 intestinal, G561
 ion fluxes and, proximal tubule, F680
 parathyroid hormone and, bladder (toad), F532
 spontaneous hypertension, G412
uptake
 changing calcium-to-hydrogen ratio effects, sarcoplasmic reticulum, H360
 ovine prolactin effects (tilapia), R161
 plasma membrane, carotid artery (cow), C65
 ventricular relaxation and, sarcoplasmic reticulum, H861
Calcium-ATPase, coupled sodium-calcium transport, cultured heart cells (chick), C442
Calcium channel
 angiotensin effects, vascular smooth muscle cells, F759
 blockers
 AVP-dependent cAMP production
 and, thick ascending limbs of Henle, F770
 extrarenal potassium disposal and, F659
 platelet function and, H366
 depolarized heart cells, C651
 inactivating, smooth muscle cells, H699
 pituitary cells and, C95
Calcium current
 forskolin and, myocytes (guinea pig), H769
 smooth muscle cell line in, H699
Calcium ions
 antagonists, SHR caudal artery, α_1 -adrenoceptor-stimulated contraction, C275
 binding, adriamycin stimulation of, myocardial function and, H419
 channel blockers, gastric muscle cells, G280
 entry blocker, kinin-prostaglandin, diltiazem-induced natriuresis, F197
 flux, in gastric muscle, G280
 occluding junctions, LLC-PK₁ cells, F734
 pepsinogen secretion and, esophageal mucosa (frog), G361
 sodium exchange, concentration during depolarization, heart cells, C651
 sodium transport and, ATPase mechanism, hypertension, C557
 steady-state free concentration, mitochondrial transport following renal ischemia, F357
Calcium-to-hydrogen ratio, calcium uptake and, cardiac sarcoplasmic reticulum (guinea pig), H360
Caliber, diastolic, hypertension and, H662
Calmodulin
 activation, calcium regulation, adenylate cyclase, C642
 adrenergic stimulation, potassium secretion, colon, G432
 calcium and, kallikrein and tonin release, submandibular gland, C480
 heat-stable calmodulin-binding protein and, alteration in activities, testis, C299
 inhibition, tubuloglomerular feedback responses, F715
 myosin phosphorylation, striated muscles, C657
cAMP: *see* Adenosine monophosphate, cyclic
Capillaries
 hydraulic conductivity, superficial and deep glomeruli, F86
 muscle, cell flow path through (hamster), H899
 permeability: *see* Permeability
 reabsorption, peritubular, benzolamide effects, F169
 transport, adenosine, skeletal muscle, H482
Capsaicin
 micturition reflex, postnatal development, R926
 neurotransmitter, right atrium (guinea pig), H693
Captopril
 angiotensin II and, sodium appetite suppression, R251
 angiotensin II inhibition
 blood pressure and hemodynamics, pregnancy, F308
 plasma ADH, prostaglandin synthesis, and renal function, F986
 release, mesenteric arteries, H144
Carbachol
 acetaldehyde treatment and, pancreatic structure and function, G598
 arachidonic acid metabolites, gap junctions, trachea, C495
 calcium increase and, gastric glands, G814
 myosin phosphorylation, airway muscle tone, calcium dependence, C597
 pepsin secretory response and, gastric glands, G200
 renal mechanisms in hypothalamic natriuresis, F322
 VIP receptor antagonist and, G553
Carbacyclin, prostaglandin E₁ effects, DNA synthesis, vascular smooth muscle cells, C584
Carbohydrates
 absorption, pancreatic amylase-deprived jejunum, G824
 effect on blood pressure, hypertension models, E381
 metabolism
 ischemic left ventricular wall, H255
 myocytes, H853
 sucrose feeding and exercise effects, E607
 (tuna), R452
 renal effects, ammonium excretion, E156
 triglyceride kinetics, dietary sugar effects, E325
Carbon dioxide
 changes, complete brain ischemia, R348
 erythrocyte metabolism and (chicken), R260
 partial pressure, urine-minus-blood, F441
 pH effects, proximal tubule, basolateral membrane, F261
 renal acid secretion and, elasmobranch (dogfish), F288
 tension, arterial, hypocapnia and hypercapnia effects (geese), R499
Carbonic acid, buffer, complete brain ischemia, R348
Carbonic anhydrase
 alkaline cell identification, urinary bladder (turtle), F159
 inhibition, proximal tubules, F169
Carboxyfluorescein, alkaline cell identification, urinary bladder (turtle), F159
Cardiac cells: *see also* Heart cells;
 Myocytes
 pacemaker, electronic interactions (chick), H453
 Cardiac nerves, heart rate, rhythm, and pacemaker location, H630
 Cardiac output
 endotoxin effects, H240
 hypovolemia, thyrotropin-releasing hormone in, H1093
 volume during hemorrhage, H1136
 Cardiac tamponade, development of, neurogenic antinatriuresis during, H195
 Cardiomyopathy
 diabetic, reversibility with insulin, H108
 verapamil and (hamster), H22
 Cardiovascular afferent nerves, dorsal medulla, interactions in, R580
 Cardiovascular integration, diurnal variations, R37
 Cardioversion, internal countershock, during normal rhythm, H736

- Carotid artery
bile acids, enterohepatic circulation (pig), G295
plasma membranes (cow), C65
- Carotid body, oxygen metabolism, two-cytochrome model, H202
- Carotid sinus
baroreceptor modulation, fluid transport, jejunum, G736
bilateral reflex interaction, H96
on-line compliance, vascular segments, R142
vasoactive drug effects, R1074
- Carotid sinus nerve, afferent interactions, dorsal medulla, R580
- λ -Carrageenan, injury, amino acid metabolism after, skeletal muscle, E24
- Cartilage
growth, local arterial infusion, E231
longitudinal bone growth, local administration of GH and IGF-1, E367
- β -Casein, ion transport and, bovine, ileum, G92
- β -Casomorphin, ion transport and, ileum, G92
- Catalase
myocardial function and, H595
superoxide dismutase and, actions in stunned myocardium, H372
- Catecholamines
atrial stretch and, awake state, R221
cell groups, fastigial nucleus brain stem lesions, H231
circulating
hepatic blood volume and, H992
metabolism, gill (trout), R526
concentration, arterial wall, high altitude and, R485
effect on blood pressure, hypertension models, E381
electrical activity and, placenta (pig), R474
excretion, effect of refined carbohydrate, E381
glycogenolysis and, liver and muscle, E641
hemorrhage, adrenal medullary and cortical blood flow, H954
hemorrhage-evoked, potentiation of release, blood loss and, E18
 3 H-labeled, metabolism (trout), R519, R526
hypoxia, sinoaortic denervation and, awake state, R868
ion transport across alveolar monolayers, C222
potassium disposal and, extrarenal, F659
renal denervation effects and, responses to hypoxemia (lambs), F294
renal effects, high carbohydrate diet and, E156
sympathoadrenal release, hemorrhage rate effects, E69
thermogenesis mediated by, carbohydrate ingestion, E226
uptake
angiotensin II and, hypothalamus-brain stem cultures, C236
augmented by the heart, awake state, H76
vasopressin infusion and, sodium-restricted dogs, F460
- Cathepsin, proteinuric nephron, F1055
- Cathepsin B, cathepsin D and, limited proteolysis, cell-free system, C589
- Cathepsin D, cathepsin B and, limited proteolysis, cell-free system, C589
- Catheterization
impedance, atrial volume during hemorrhage, H1136
vena cava, large volume blood sampling, new protocol, E331
- Cations
chloride cotransport sites, bumetanide measurement, Ehrlich cells, C688
dependence of calcium influx, erythrocytes, C26
divalent, protein turnover and, skeletal muscle, E702
fluxes, osmolarity effects, medullary thick ascending limb cells, F176
selectivity, pancreatic β -cells, C90
transport, by isolated perfused proximal renal tubules (snake), F407
water flow inhibition, vasopressin-induced, water channels, C729
- Caudal artery, α_1 -adrenoceptor-stimulated contraction, increased calcium ion sensitivity, C275
- CKK: see Cholecystokinin
- Cecotrophy, soft feces formation, control, role of prostaglandins, G302
- Cell membrane, chloride exchange, proton inhibition of, C955
- Cells: see also specific cell
culture, brain, angiotensin II-stimulated norepinephrine uptake, C236
death, raw soya flour feeding, pancreatic involution after, G9
density, LLC-PK₁ cells and hexose transport, C199
interstitial of Cajal, boundary cell role in electrical slow waves, G287
proliferation, hexose transport in LLC-PK₁ epithelia, C314
separation, immunoselective process for, F386
spacing, muscle capillaries (hamster), H899
volume: see Volume
- Cell surface, ultrastructure, myocardium, calcium depletion and repletion effects, H265
- Central nervous system
calcitonin gene-related peptide actions, gastric acid secretion and, awake state, G742
chronic angiotensin infusion, neurohumoral contributions to, H52
glucagon action, hypothalamus, R120
hemodynamics, microspheres, H137
 α -MSH antiserum, fever and, R803
pantothenic acid transport, R292
resetting, baroreceptor reflex, H866
stimulation
modulation by nucleus tractus solitarius, R996
water and electrolyte secretion, jejunum, G172
- Cerebellum, A5 area, cardiovascular response and brain stem lesions, H231
- Cerebral cortex
neurotransmitter modulation of VIP release, R104
proglumide analogue/cholecystokinin receptor antagonist, G856
- Cerebral ventricles
anteroventral third, corticosteroid and plasma restitution, hemorrhage and hypothalamic lesions, R18
hypertension, angiotensin-induced, H52
- Cerebrospinal fluid
angiotensin, osmoregulatory control of, R918
artificial, hypotension and bradycardia, nucleus tractus solitarius, H226
cGMP: see Guanosine monophosphate, cyclic
- Chloride
active transport, urinary bladder epithelium (trout), R227
alteration of secretion, arachidonic acid effects, tracheal epithelium, F47
electrolyte transport, retinal pigment epithelium, F781
exchange, proton inhibition of, C955
flux
sodium-potassium transport, hypertension, C540
thiocyanate effects, gastric mucosa (bullfrog), G76
influx, cation cotransport sites, Ehrlich cells, C688
potassium fluxes and, distal tubules, F855
reabsorption
atrial natriuretic factor effects, kidney, F710
proximal, neurogenic regulation of, F22
secretion
inhibition by anthracene-9-carboxylic acid, colon, G185
intracellular sodium activity, tracheal epithelium (dog), C646
prostaglandin E₂ effect, renal epithelial cells (toad), F511
radiation-induced, ileal, G540
sodium chloride transport, rectal gland (dogfish), F516
T₈₄ cell monolayers, barium monolayers, C486
sodium-potassium cotransporter, bumetanide, LLC-PK₁/C14 cells, C799
taurine transport, kidney (fish), R984
transport
activators of protein kinase C inhibition, A6 epithelia, C517
bicarbonate absorption effects, proximal tubule, F1046
calcium antagonist, ileum, G691
disulfonic stilbene effects, colon, G44
diuretic drug effects, distal tubules, F1013
gastric fundus, omeprazole effects (frog), G118
ion fluxes and, proximal tubule, F680
kidney (quail), R341
prostaglandin role, kidney cell culture, F525
sugar and amino acid effects, intestines (snake), G109
- Chloride-bicarbonate exchange
basolateral membrane, C920
regulation of intracellular pH, hepatocytes (trout), R24
urinary bladder epithelium (trout), R227
- Chloride ions
secretion, quinidine effects, colonic epithelial cell line, G806
transport, distal colon, neonatal, G754
- Chlorine, total-body, neutron activation and chemical analysis determination, E179
- Chloroquine, insulin processing effect, hepatocytes, E148

- Chlorothiazide, sodium, chloride, and potassium transport, distal tubules, F1013
- Chlorthalidone, hypocalciuric effect, duodenum and colon, F396
- Cholecalciferol, 1,25-dihydroxy-, spontaneous hypertension, G412
- Cholecystokinin, duodenal motility relations, fasting and feeding, G570
- Cholecystokinin
acetaldehyde treatment and, pancreatic structure and function, G598
analogues, action on pancreas, G405
calcium increase and, gastric glands, G814
contractile response and, gastric muscle cells, G357
feedback regulation and, pancreatic enzyme secretion, G252
inhibition of feeding with, alloxan effects, R682
meal suppression, insulin effects (baboon), R856
multiple neuropeptides, single smooth muscle cells, C792
pancreas and gallbladder responses, cholinergic dependence, G665
pancreatic acinar cells, monolayer culture, G440
receptor antagonists, proglumide analogue, G856
receptors: see Receptors
release, control of pancreatic secretion and, G391
response to amino acids and fats and, exocrine pancreas, G558
VIP receptor antagonist and, G553
withdrawal, apoptosis and, pancreas, G9
- Cholecystokinin-8, fasting interval and (baboon), R851
- Cholecystokinin-octapeptide
gastric muscle, contractile response, G280
pepsin secretory response, gastric glands, G200
- Cholera toxin, prostaglandin and forskolin interactions, cortical collecting tubule, F127
- Cholesterol
free, generation from cholesteryl ester (monkey), E265
lysocleithin-lipid interactions, gastric mucosal barrier disruption, G275
cholesterol ester, insulin binding, exercise and diabetes effect, E186
cholesteryl ester, lipoprotein-associated, cholesterol generation from (monkey), E265
cholestyramine, interactions, intestinal, G420
- Choline
apical membrane ionic permeability and, proximal convoluted tubule, F339
cytosolic free calcium concentration and, cultured renal epithelial cells, F329
Choline acetyltransferase, pentagastrin effects, gastrointestinal tract, G546
Cholinergic drugs, hypothalamus stimulation and natriuresis, renal nerves, F322
Cholinergic innervation, muscularis mucosae, colonic (opossum), G98
Cholinergic nerves, longitudinal smooth muscle contractions, role of substance P (opossum), G336
- Choroid plexus, pantothenic acid transport, R292
- Chromatography
gel filtration, two natriuretic factors (mosquito), R328
high-pressure liquid, somatostatinlike immunoreactivity, E428
- Chronotropic responsiveness, uremia, heart, H846
- Chylomicron
formation and transport, by enterocytes to lymphatics, G715
transport, interstitial matrix hydration and, G497
- Chymotrypsin, treatment, platelets, H550
- Cimetidine
gastric emptying and, G244
resistance and, fundus and antrum (frog), G639
- Cineradiography, left ventricular volume and dimensions, H131
- Cirazoline, α_1 - β -adrenergic synergism, protein secretion, lacrimal gland, C704
- Circadian rhythms: see Rhythms
- Circadian system
physiology of, R737
response, light and dark transitions (hamster), R708
- Circannual variations, circadian rhythms (squirrel), R831
- Circulation: see also Blood flow; Microcirculation
coronary
adenosine effects, systemic hypoxia, H579
 α_1 -adrenergic constriction effects, H1117
regulation, adenosine in, H1033
dural sinus pressure, H389
enterohepatic, fasting intestinal motor activity and, G836
peripheral
adrenoceptor stimulation of, H1071
hypoxia and sinoaortic denervation, awake state (sheep), R868
pulmonary, modification of adrenoceptor responses, H1109
regional responses, hypocapnia and hypercapnia (geese), R499
renal, blood viscosity effects, F40
splanchnic
ethanol-induced increase in, G518
flow and resistance, portal hypertension, G205
- Circulatory transport, terminology for, H539
- Cirrhosis
ascites and, cardiac content, atrial natriuretic factor, F749
somatostatinlike immunoreactivity, circulating forms, E428
- Cisplatin, renal failure, mitochondrial alterations in, F991
- Citrate, respiratory acidosis effects, proximal tubule, F1039
- Clamping, renal artery, atrial natriuretic factor and, F520
- Clamp technique, euglycemic, hepatic glucose production and, E346
- Clara cells, bronchiolar, development, neonate, R783
- Clathrin, localization, intercalated cells, kidney, C605
- Claudication, intermittent, bilateral stenosis, femoral artery, training effects, H1050
- Clearance, radioiodide, placenta (sheep), R112
- Clonidine, α_2 -noradrenergic feeding rhythm, paraventricular nucleus, R83
- Cobalt, mechanical activity and, skeletal muscles, C40
- Cochlea
auditory response, brain stem, fetus (sheep), R137
potential development, anoxia effects (gerbil), R493
- Coenzyme A, fatty acid metabolism and, heart, H351
- Coenzyme A metabolites, absorption, intestinal (rat, chick), G155
- Cold
acclimation
differentiation of brown adipocytes from interstitial cells, C880
dystrophy and (hamster), R167
hibernation and, vascular smooth muscle response (woodchuck), R77
insulin and glucagon secretion in, E669
adaptation, brown adipocytes, C228
defense response, ventromedial hypothalamus and, awake state, R560
restraint, lesion formation, gastric motility effects, G191
- Collagen
intestinal muscle, after jejunoileal bypass, G70
knee menisci, response to thermomechanical stress, R65
- Colon
brush-border membrane vesicles, sodium-hydrogen exchange, G781
chloride secretion, inhibition by anthracene-9-carboxylic acid, G185
chloride transport, disulfonic stilbene concentration-dependent effects, G44
chlorthalidone effect, inhibition of calcium absorption, F396
descending, potassium secretion, G432
developing, glucose-coupled sodium absorption in, G221
distal, ion transport, neonatal, G754
motor complexes and contractile activity, myoelectric correlates of, G213
muscularis mucosae, pharmacologic characterization (opossum), G98
potassium transport, adaptation to diet, F483
propulsive behavior, G653
proximal, active potassium transport by, G475
sodium absorption and potassium secretion in, sodium deficiency, aldosterone, F235
- Compartmental analysis, plasma renin, production and decay rates, E551
- Compartmentation, sublobular, hepatic oxygen uptake, G800
- Compliance
arterial, noninvasive measurement, H181
carotid sinus, vasoactive drug effects, R1074
on-line, isolated vascular segments, R142
vascular, α_1 - and α_2 -adrenoceptor stimulation of, H1071
- Computed tomography: see Tomography
- Conductance, chord and slope, equivalent electromotive forces, C333
- Confluence, advancing, effect of, G323

SUBJECT INDEX TO VOLUME 250

- Converting enzyme inhibitor, angiotensin and, hemorrhage-stimulated drinking (fish), R1034
- Copper, plasma level changes, muramyl dipeptide-induced fever, C572
- Corneal epithelium, sodium-potassium flux ratio in (bullfrog), F850
- Coronary artery
diltiazem actions, α -adrenoceptor subtypes and, H718
endothelium-dependent relaxations, oxygen free radicals, H815
endothelium-derived relaxing factor, oxygen free radicals and, H822
flow-induced release, endothelium-derived relaxing factor, H1145
rhythmic contractions, H524
- Coronary diastolic input, impedance and capacitance, pressure and tone dependence of, H330
- Coronary microvessel, endothelium, dexamethasone effects on prostaglandin release, C970
- Coronary occlusion, one-beat, reactive hyperemia following, awake state, H474
- Coronary transport function, glucose, H29
- Coronary vessels, hyperemic response of, adenosine effects, H509
- Cortical labyrinth, ammonia secretion, proximal tubules (rabbit), F497
- Corticosteroid, secretion, effect of hydrogen ion concentration, E259
- Corticosteroids
control, angiotensin II and CRF interaction, R396
hydrogen and bile salt permeability, gastric mucosa, G617
restitution, hypothalamic lesions and hemorrhage, R18
- Corticosterone
adrenocortical function and, during hypoxia and hemorrhage, awake state, R240
cell growth and, gastric mucosa, during development, G633
hypothalamic lesions and hemorrhage, R18
 α_2 -noradrenergic feeding rhythm, paraventricular nucleus, R83
pentagastrin effects, gastrointestinal tract, G546
secretion
adrenal, H_1 action of histamine on, E523
effect of hydrogen ion concentration, E259
pituitary-dependent and -independent, E470
stimulation of secretion, brief ACTH exposure, E629
- Corticotropin, corticosteroid secretion and, adrenal cortex, E629
- Corticotropin-releasing factor
angiotensin II interaction, control of ACTH and adrenal steroids, R396
hypothalamic, PVN lesion, ACTH secretion and, E319
intravenous infusion, ACTH and cortisol response, E422
- Cortisol
endocrine pulse detection, cluster analysis for, E486
epinephrine interactions, glucoregulatory role, E393
inhibition of ACTH, fetus (sheep), R795
- plasma concentration, fetus (sheep), R795
release, hemorrhage effects, E76
response to CRF infusion, fetus (lamb), E422
secretion
adrenal, H_1 action of histamine on, E523
effect of hydrogen ion concentration, E259
- Countershock, internal, effects, recordings during normal rhythm, H736
- Coupling
excitation-contraction
augmentation of sarcolemmal calcium, H247
calcium release in skinned fibers, C245
inositol trisphosphate, calcium release from muscle, C807
intercellular, intestinal smooth muscle, atrophy and hypertrophy, C292
solute-solvent, proximal tubules, model, F860
- Creatine, shuttle, muscle contraction, phosphagen and intracellular pH changes, C264
- Creatinine, buffer infusion, respiratory acidosis, F115
- Cremaster muscle, protein leakage, hypertension and, H284
- CRF: see Corticotropin-releasing factor
- Cross bridges, cycling and noncycling inhibition, vanadate and, skinned smooth muscle, C325
- Crystal, structure, bicarbonate and magnesium effects, bone, F302
- Cryptorchidism, surgical, calmodulin and calmodulin-binding protein activities, testis, C299
- Current
short-circuit, retinal pigment epithelium, F781
voltage analysis and, sodium stimulation by aldosterone, bladder, F273
voltage relations and, chord/slope conductances, electromotive force, C333
- Cutaneous artery, vibration effects, H519
- Cyanide, sodium-chloride transport, proximal convoluted tubules, F644
- Cyanocobalamin, diffusion permeability, human placenta (guinea pig), R459
- Cyclamate, apical membrane ionic permeability and, proximal convoluted tubule, F339
- Cyclooxygenase
osmolality, cAMP, and prostaglandin E_2 and, collecting tubule cells, F802
oxygen reactivity, arteriolar, H1102
- L-Cysteic acid, secretion, kidney (snake), R712
- Cytochrome c oxidase, diet effects, brown adipose tissue (hamster), R389
- Cytochromes
high-affinity, oxygen metabolism, carotid body model, H202
intracellular oxygenation, adult cardiac myocytes, C384
oxidation, mitochondrial function and, cardiac myocytes, C374
- Cytoskeleton, MDCK cells, epithelial cell volume, cAMP effects, C319
- Decapeptide, gastrin-releasing, antral muscle, G581
- Decerebration, chronic, insulin secretion in, R539
- Defibrillation, internal countershock, during normal rhythm, H736
- Dehydration
angiotensin II, osmoregulatory control of, R918
heat stress and, blood flow, leg (baboon), R30
osmotic and volume stimuli, regulation of neurohypophyseal secretion, R267
rehydration and, angiotensin in, R898
spontaneous hypertension, methionine-enkephalin and vasopressin in, R1007
vasotocin and, bladder (toad), E31
- Dehydroascorbic acid
monosaccharide transporter, vitamin C uptake, placental membrane vesicles, C637
transport, ileum (guinea pig), G461
- Denervation
myogenic tone and, resistance artery, ear, H889
renal, sodium excretion, dopamine receptor effects, F1033
- Densitometry, blood, fluid shifts after hemorrhage, H342
- Deoxycorticosterone acetate
body sodium affected by, F551
osmotic regulation, plasma vasopressin, R287
- Deoxycorticosterone-salt
hypertension, atrial natriuretic factor responses to, H871
taurine in, blood pressure and fluid changes, R1007
- 2-Deoxy-D-glucose
 α_2 -noradrenergic feeding rhythm, paraventricular nucleus, R83
uptake, myocardial, H29
- Deoxyribonucleic acid
gastric mucosa, corticosterone effects, during development, G633
RNA-DNA dot-blot hybridization, intrarenal angiotensinogen mRNA, F374
synthesis, prostaglandin E_1 effects, vascular smooth muscle cells, C584
tumor cell lines, clonal variation of cadmium response, C256
- Depolarization, calcium ion concentration, sodium-calcium exchange, heart muscle, C651
- Desoxycorticosterone, tubuloglomerular feedback control, distal fluid delivery, F1024
- Detergents, cardiac myocyte stiffness and, H932
- Deuterium
alanine metabolism, dietary protein and energy intakes, E39
energy expenditure, doubly labeled water, R823
- Development: see also Growth; Maturation
blood pressure control in, R188
endocochlear potential (gerbil), R493
feeding behavior, control of, infant, R807
gastric mucosal
corticosterone effects on cell growth, G633
permeability response, luminal hydrogen and bile salt, G617
ion transport and, distal colon, neonatal, G754

D

DBcAMP: see Dibutyryladenosine 3',5'-cyclic monophosphate

Development (continued)

- postnatal
 - calmodulin and calmodulin-binding protein activities, testis, C299
 - micturition reflexes, R926
 - reproductive, sex differences, R370
 - skeletal, vitamin D effects, neonate, E725
- Dexamethasone
 - diurnal potassium excretory cycles in, F930
 - oxygen reactivity, arteriolar, H1102
 - production, mesangial cells, during phagocytosis, F596
 - prostaglandin release and, coronary microvessel endothelium, C970
 - renal responses and, metabolic acidosis, F827
 - treatment, protein synthesis and, heart, C821
- Dextran, renal circulation and renin activity, F40
- Diabetes
 - cardiac lipids and performance in, H1079
 - cardiomyopathy, reversibility with insulin, H108
 - insulin binding effect, skeletal muscle, E186
 - insulin metabolism, liver, muscle, kidney, E530
 - mRNA activity in, heart, E558
 - norepinephrine turnover and, kidney, R567
 - protein and sucrase-isomaltase synthesis, intestinal mucosa, G788
 - streptozotocin-induced, insulin binding and glucose transport, E402
- Diabetes insipidus, nephrogenic, nucleotides in distal nephron, F151
- Diacylglycerol
 - inositol triphosphate injection and (sea urchin eggs), C340
 - protein kinase C activators, sodium transport inhibition, A6 epithelia, C517
- Diacylglycerol lipase, prolactin release, arachidonate metabolism role, E288
- Diarrhea, ion transport and, intestinal, G1
- Diastolic interactions, pacemaker cells, heart (chick), H453
- Dibucaine, *p*-aminohippurate stimulation with, kidney cortical slices, F785
- Dibutyladenosine 3',5'-cyclic monophosphate, isometric force in aorta, forskolin and cyclic nucleotide effects, C468
- Dichloroacetate, substrate metabolism and, myocytes, H853
- DIDS: see Disulfonic acid
- Diet
 - effects of bicarbonate and magnesium, bone, F302
 - intermittent feeding, effect on renal hemodynamics, F566
 - low-sodium, body sodium and, F551
- Diet: see Feeding
- Diffusion
 - gradients, intracellular, oxygen and adenosine triphosphate, C663
 - serotonin uptake, pulmonary artery endothelium, C761
- Diffuromethyl-ornithine, ODC activity and, pregnancy, E377
- Digestive enzymes, acetaldehyde treatment, pancreatic structure and function, G598

- Digitalis, intoxication, pacemaker rhythm and, sinus node, H567
- Digitonin, enzyme secretion and, pancreatic acini, G698
- Digitum longus muscle, motor units in, C828
- Dihydroalprenolol, ³H-labeled, cardiac β -adrenergic receptor affinity for, H490
- Dihydropyridine, calcium ion agonist, interaction with pituitary cells, C95
- 1,25-Dihydroxycholecalciferol: see Cholecalciferol
- 1,25-Dihydroxyvitamin D₃: see Vitamin D₃
- 4,4'-Diisothiocyananostilbene-2,2'-disulfonic acid: see Disulfonic acid
- Diltiazem
 - natriuresis and, renal kinin-prostaglandin role, F197
 - platelet function and, H366
 - prostaglandin-induced vasoconstriction reversal, renal and smooth muscle, F619
 - vibration effects, cutaneous artery, H519
- Diluting segment, functional heterogeneity in, potassium and chloride transport and (snake), F430
- 5,5'-Dimethylxazolidine, intracellular pH and ion transport, ileal, G588
- Dipyridamole
 - adenosine uptake and, skeletal muscle, H482
 - potentiation, skeletal muscle active hyperemia, H62
- Disaccharidases, diabetes and, intestinal mucosa, G788
- Disulfonic acid
 - concentration-dependent effects, chloride transport, colonic, G44
 - functional variability of MDCK cells, C214
 - pH and anion transport effects, small intestine, G469
 - sulfate transport inhibition, renal, F226
- Dithiothreitol, chloride secretion, colon, G185
- Diuresis
 - atrial stretch, atrial peptides and, R946
 - effect of atrial natriuretic factor, renal artery clamping and, F520
 - osmotic, proximal tubules, model, F874
 - pressure, renal escape from vasopressin, F907
 - water
 - arginine vasopressin and, F1008
 - sodium transport and, medullary collecting duct, F963
- Diuretic drugs, sodium, chloride, and potassium transport, renal distal tubules, F1013
- Diurnal variations, cardiovascular integration, R37
- Diving, volunteer, metabolic studies, microcomputer assisted (seal), R175
- DNA: see Deoxyribonucleic acid
- Dobutamine, cardiac adaptations and, H725
- DOCA-salt: see Deoxycorticosterone-salt
- DOC: see Desoxycorticosterone
- Domes, LLC-PK₁ cell clones, phenotypically stable subpopulations, C682
- Dopamine
 - handling, perfused kidney, F975
 - inhibition, maitotoxin-stimulated pituitary calcium efflux, prolactin release and, E731

- multiple neuropeptides, single smooth muscle cell effects, C792
- neural, glomerular filtration rate and, F674
- prolactin release, arachidonate metabolism role, E288
- receptors: see Receptors
- Dopamine sulfate, handling, perfused kidney, F975
- Doppler flowmeter, renal denervation effects, renal responses to hypoxemia, F294
- Dorsal medulla, renal and cardiovascular afferent nerves, interactions in, R580
- Dose-response relations
 - indomethacin and prostaglandin E₂, ileum, G135
 - insulin, plasma amino acid reduction and, E13
- Drinking
 - angiotensin-induced, ablation of subfornical organ (sheep), R1052
 - angiotensin-stimulated (fish), R1034
 - regulation, tachykinin role, G309
 - rehydration, angiotensin in, R898
- Duodenum
 - bile acid delivery, fasting intestinal motor activity and, G836
 - chlorthalidone effect, inhibition of calcium absorption, F396
 - motility: see Motility
- Dural sinus, pressure: see Pressure

E

- Ear
 - artery
 - norepinephrine-induced vasoconstriction, 5-hydroxytryptamine effects, H121
 - resistance, stretch-dependent tone in, H87
- Eating: see also Feeding
 - cephalic phase, postprandial thermogenesis, E144
- ECG: see Electrocardiography
- Ehrlich cells: see Ascites
- Eicosanoids, angiotensin II and, prostaglandin effects, glomerular size, F348
- 5,8,11,14 Eicosatetraynoic acid: see ETYA
- Eicosonoid, metabolism, β -adrenergic mechanisms and, potential cAMP compartmentation, C406
- Elastance
 - arterial, ventricular efficiency, model, R1021
 - pulsus alternans, heart (pig), H606
- Elasticity
 - arterial, noninvasive measurement of, H181
 - vascular segments, technique for measurement, R142
- Electrical activity
 - motor complexes and contractile activity, colonic, G213
 - sodium transfer and, placenta (pig), R474
- Electrical current: see Current
- Electrical properties, electrical equivalent circuit, chord/slope conductances, electromotive force, C333
- Electrical stimulation
 - fastigial nucleus, respiratory responses to, R418

SUBJECT INDEX TO VOLUME 250

- phosphorylase kinase isozymes, skeletal muscles, C84
- preoptic recess, skeletal muscle vasodilation during, H221
- subformal organ, hemodynamic responses, R1117
- Electrocardiography, exposure to radio-frequency radiation, H320
- Electrode, plunge, endocardial arrhythmias, H530
- Electrogastrography, interdigestive migrating complex, G165
- Electrolytes
- absorption and secretion, intestinal, diarrhea and, G1
 - brain, hyponatremia and, R444
 - composition, shell size and (turtle), R1133
 - excretion, ADH effects, kidney, F1063
 - handling, superficial nephron, F590
 - permeability: *see* Permeability
 - secretion
 - calcitonin, jejunum, G172
 - sodium-potassium-ATPase distribution in parotid gland, C430
 - transport
 - adrenergic stimulation, colon, G432
 - barium inhibition, VIP- and A23187-stimulated chloride secretion, C486
 - gamma radiation effects, ileal, G540
 - prostaglandin E₂ effects (toad), F511
 - retinal pigment epithelium, F781
 - weak, transport, small intestine, G469
- Electromotive force, membrane, apical ionic permeability, proximal convoluted tubule, F339
- Electron probe analysis, proximal tubules (flounder), R608
- Electrophoresis, central action of glucagon, hypothalamus, R120
- Electrophysiology
- basolateral bicarbonate transport, proximal tubule, F267
 - cardiac, heart rate effects, extracellular potassium accumulation, H982
 - collecting duct, F70
 - functional variability of MDCK cells, C214
 - myometrial cells, pregnancy, C47
 - plunge electrode system, endocardial arrhythmias, H530
 - sodium-coupled transport, proximal tubules, F953
 - transepithelial, proximal tubules (flounder), R608
 - ventricular cardiac muscle cells, H731
 - ventricular excitability, development of chronic heart failure, awake state, H1022
- Eleidoisin, gastric acid and pepsin secretion, tachykinin effect (codfish), G309
- Embryo
- electronic pacemaker interactions, heart cells (chick), H453
 - ventricular function (chick), H407
- Endocardium, plunge electrode system, arrhythmias, H530
- Endocrine cells, intestinal, neurotensin release, G374, G385
- Endocrine pancreas: *see* Pancreas
- Endocrine system, multiple adjustments, photo-induced, testicular function and, R199
- Endocytosis
- ADH-induced water flow, polycation inhibition, C729
 - interacting populations, regulation, R1123
- Endogenous hormones, uterine blood flow regulation and, pregnancy (ewe), R365
- Endopeptidase, somatostatin binding and, membrane vesicles, gut (pig), G679
- Endoplasmic reticulum
- cellular calcium regulation, endotoxic shock, R884
 - sodium-potassium-ATPase distribution in parotid gland and, C430
- β -Endorphin, naloxone effects, insulin-induced hypoglycemia, E236
- Endorphins, blood pressure and heart rate, H796
- Endothelial cells
- adenosine uptake, skeletal muscle, H482
 - flow-dependent dilation, methylene blue and ETYA blocking of, H974
 - heparin-like molecules, anticoagulant active, H879
 - prostaglandin release, dexamethasone effects, C970
 - serotonin uptake
 - hypoxia, pulmonary artery, C766
 - pulmonary artery, C761
 - sodium-potassium-chloride, bradykinin and vasopressin stimulation of, C888
 - vascular, calcium homeostasis, platelet activating factor effects, H1086
- Endothelium
- arterial, equivalent pore size for, H16
 - ear resistance arteries, myogenic tone in, H87
 - serotonin uptake
 - hypoxia, pulmonary artery, C766
 - pulmonary artery, C761
- Endothelium-derived relaxing factor
- flow-induced release, arterial, H1145
 - hyperoxia, superoxide anions and, H822
- Endotherms, newborn, critical radius of, R699
- Endotoxemia, renal failure and, awake state, F1098
- Endotoxic shock: *see* Shock
- Endotoxin
- bacterial, corticosterone secretion, pituitary-dependent and independent, E470
 - corticosterone secretion affected by, role of histamine, E243
 - fever, endogenous pyrogens and, R776
 - glucocorticoid induction inhibition, hepatic enzymes, E218
 - lethal and nonlethal doses, myocardial performance after, H240
- Energy
- balance
 - brown fat and, pregnancy (hamster), R845
 - brown fat thermogenesis and, ovarian hormone effects, R245
 - cold acclimation and (hamster), R167
 - cerebral, ketone body metabolism and, E169
 - elastic, storage, skeletal muscle (frog), R556
 - expenditure, doubly labeled water, R823
 - intake, alanine metabolism and, E39
 - metabolism
 - enteral vs. parenteral nutrition, E47
 - skeletal muscle biopsy, C813
 - substrate, jejunal epithelium, C191
- potential: *see* Potentials
- sodium gradient, sugar transport and, intestinal, G448
- stores, myocardial, adriamycin effects, H419
- Enkephalin
- functional difference between enkephalin, myenteric plexus, G60
 - vasopressin and, spontaneous hypertension, R1007
- Enteral nutrition: *see* Feeding
- Enteric nerves, longitudinal smooth muscle contractions, role of substance P (opossum), G336
- Enteric nervous system, propulsive behavior and, ileal and colonic, G653
- Enteric primary cells, neurotensin release from, G385
- Enterocytes
- chylomicron transport, lymphatics, G715
 - postnatal maturation of, G177
 - refeeding effects, polyamine biosynthesis, G709
- Enterokinase, modulation, pancreaticobiliary factors in, small intestine, G103
- Enzymes: *see also* specific enzyme
- degradation, control of cultured isozyme levels, phosphorylase kinase, C365
 - glucose oxidation, cyclic adenosine monophosphate, myotubes, C713
 - regulation, pancreaticobiliary factors in, G103
 - secretion, calcium, phorbol ester, and cAMP stimulation of, pancreatic acini, G698
- Epidermal growth factor
- binding sites, adult liver, G760
 - intestinal cells, suckling and adult, G850
 - tumor promoter, dynamics, models, R1123
- Epidermis, eccrine sweat, proteolytic enzymes in, R691
- Epinephrine
- anorexia, ontogeny of, R313
 - bronchiolar epithelium development, neonate, R783
 - chronic infusion, metabolic effects of, E518
 - circulating, hepatic blood volume and, H992
 - C₁ neurons, cardiovascular responses from ventral medulla, R932
 - cortisol interactions, glucoregulatory role, E393
 - ³H-labeled, metabolism (trout), R519, R526
 - infusion, glycogenolysis and, exercise, E641
 - inhibition of feeding with, alloxan effects, R682
 - insulin binding effect, skeletal muscle, E186
 - interaction, renal nerves, renin secretion and, F999
 - mechanical effects, carotid sinus, R1074
 - naloxone effect, insulin-induced hypoglycemia, E236
 - sympathoadrenal release, hemorrhage rate effects, E69
- Epiphyseal plate, longitudinal bone growth, local administration of GH and IGF-1, E367
- Epithelial cells
- bumetanide, sodium-potassium-chloride cotransporter, photoinactivation, C799

- Epithelial cells (continued)**
 colonic, quinidine inhibition of ATP levels, G806
 cytosolic free calcium concentration in, renal, F329
 hexose transport, cell proliferation, C314
 intestinal, sodium-dependent transport of inorganic phosphate, G323
 LLC-PK₁ cell clones, phenotypically stable subpopulations, C682
 protein kinase C activators, sodium transport inhibition, C517
 sodium absorption and potassium secretion, during sodium deficiency, colon, F235
 sodium-chloride transport, prostaglandin release, C676
 volume, cAMP effect, cytoskeleton of MDCK cells, C319
- Epithelial transport**
 low-potassium diet, adaptive change in colon, F483
 patch-clamp technique and, renal tissues, F379
- Epithelium**
 cell cooperation, potassium transfer, C306
 cotransport systems, intrinsic, apparent and effective affinities, C523
 electroneutral bicarbonate secretion, gallbladder, C617
 jejunal, substrate metabolism, C191
 tracheal, intracellular sodium activity, chloride secretion, C646
 transepithelial transport, prostaglandin release, calcium ionophores, C629
- Erythrocytes**
Amphiuma volume regulation, calcium-hydrogen exchange, C423
 flux, muscle capillaries (hamster), H899
 ghosts, proton inhibition, chloride exchange, C955
 hexose transport, sulfhydryl substituents and, C853
 metabolism, regulation (bird), R260
 passive permeability, calcium, C26
 postural changes and, H68
 potassium efflux, calcium-induced, C55
 resealed ghosts, potassium-chloride cotransport, C578
 spectrin membrane skeleton, C347
 velocity, skeletal muscle venules, H828, H838
- Esophageal mucosa, pepsinogen secretion from, cellular messengers of stimulants of (frog), G361**
- Esophageal peptic glands, pepsinogen secretion, seasonal fluctuation in (frog), G484**
- Esophagus**
 peristaltic contractions, muscarinic antagonist effects (opossum), G50
 smooth muscle contractions, role of substance P (opossum), G336
- Estradiol**
 energy balance and thermogenesis with, brown adipose tissue, R245
 neurons and, preoptic hypothalamic tissue slices, R625
 shift, prolactin or growth hormone cells, E103
 uterine blood flow regulation, pregnancy (ewe), R365
- Estrogen**
 deficiency, bone loss, calcitrol effects, E35
- effect on osmoregulation and vasopressin secretion, E352
 LH and FSH secretion inhibition, effects of GnRH antagonist, E341
 Estrone, uterine blood flow regulation, pregnancy (ewe), R365
 Estrus, circannual variations, circadian rhythms (squirrel), R831
 Estrus cycle
 brown fat thermogenesis, pregnancy and (hamster), R845
 osmoregulation and vasopressin levels during, effect of ovarian steroids, E352
 Ethanol, metabolism, splanchnic circulation and, G518
 ETYA, block of flow-dependent dilation and, femoral artery, H974
 Euglycemic clamp, insulin, plasma amino acids and, E13
 Euglycemic-hyperinsulinemic clamp, ventromedial hypothalamic lesions, insulin action after, E662
 Excitation-contraction coupling: see Coupling
 Exercise
 adrenergic blockade and, R1060
 cardiac adaptations, dobutamine-induced, H725
 effect on insulin binding, skeletal muscle, E186, E198
 glucoregulation during, R411
 glucose metabolism and, epitrochlearis muscle, E137
 glycogenolysis, epinephrine effects, liver and muscle, E841
 hyperemia: see Hyperemia
 running, α_1 -adrenergic constriction effects, coronary flow, H1117
 static, cardiovascular responses to, α -adrenergic blockade effects, R1
 swimming, synergistic improvement of glucose tolerance, E607
 training
 adipose tissue metabolism in pregnancy and, R837
 bilateral stenosis in femoral artery and, H1050
 insulin binding and, skeletal muscle, E570
 short-term, heredity and hormone changes in, E711
 synergistic improvement of glucose tolerance, E607
 Exocrine glands, sodium-potassium-ATPase in, mapping subcellular distribution, C430
 Exocrine pancreas: see Pancreas
 Exocytosis
 electrolyte permeability, pancreatic zymogen granules, G489
 volume relation, calcium effects, bladder (toad), C841
 Extensor digitorum longus muscle, grafts, structure and function, C474
 Extensor digitorum longus muscle, calcium effects, skeletal muscle, E702
 Eye, circadian clock, protein synthesis and (Aplysia), R5
- F**
- F-actin, epithelial cell volume and, cAMP effects, cytoskeleton of MDCK cells, C319
- Fastigial nucleus
 cardiovascular response, brain stem lesions and, H231
 stimulation, respiratory responses to, R418
- Fasting
 antroduodenal resistance and, G773
 cholecystokinin-8 effects (baboon), R851
 contraction pattern and, gallbladder (opossum), G227
 feeding and
 duodenal motility and pancreatic secretion relations, G570
 plasma and tissue parameters of leucine metabolism, E615
 lipolysis and ketogenesis, glutamine role, E248
 nitrogen metabolism, glutamine role in, E622
 thyroid hormone replacement and, β -adrenergic responsiveness, R861
- Fat
 body
 adrenalectomy effects, R595
 sex differences, E736
 exocrine pancreas response to, CCK effects, G553
 Fatigue, muscle contractions, energy costs, E449
 Fatty acids
 cardiac performance and, diabetes, H1079
 esterification, parabiosis, R276
 free
 blood amino acids and, E686
 epinephrine effects, liver and muscle, E641
 glucoregulation, cortisol-epinephrine interactions, E393
 glutamine role during fasting, E248
 ketone bodies during fasting and exercise, E495
 metabolism
 coenzyme A and, heart, H351
 myocytes, H853
 oxidation, control of food intake, R1003
 short-chain, pH and anion transport effects, small intestine, G469
 transport, measurement of resistance to, jejunum, G727
 ureteral obstruction, renal membrane lipids, F136
 voluntary diving and (seal), R175
 Fatty acyl, composition, cardiac hypertrophy, H1
- Feedback
 control, glucoregulation during exercise, R411
 macula densa, frequency response of autoregulation, renal, F364
 negative, ACTH and renin control, fetal and adult (sheep), R403
 regulation, pancreatic enzyme, cholecystokinin effects, G252
 tubuloglomerular
 artificial and native tubular fluid, F16
 calmodulin inhibition and, F715
 distal fluid delivery and, F1024
 hypertension and, F967
- Feeding
 cafeteria, thermogenesis in brown fat, after adrenalectomy, E362
 central action of glucagon, hypothalamus, R120
 circadian rhythms, propylthiouracil effects (hamster), R151

SUBJECT INDEX TO VOLUME 250

contraction pattern and, gallbladder (opossum), G227
 control of intake
 fatty acid oxidation and, R1003
 infant, R807
 dietary obesity, brown fat denervation and, R1108
 diet
 brown adipose tissue and (hamster), R383, R389
 high- and low-potassium, transport properties of colon, F483
 dose-related suppression, intraportal glucagon infusion and, R676
 energy balance, brown fat and, pregnancy (hamster), R845
 enteral vs. parenteral nutrition, thermogenesis induced by, E47
 epinephrine and, anorexia, R313
 epinephrine and norepinephrine, metabolic effects of chronic infusions, E518
 fasting and, duodenal motility and pancreatic secretion relations, G570
 food anticipation, circadian timing system, R737
 food deprivation, β -adrenergic responsiveness to, thyroid hormone replacement effects, R861
 food restriction, reproductive development and, sex differences, R370
 gastric emptying and
 extra-abdominal pressure effects, R549
 inhibition by fenfluramine (monkey), R764
 gastrointestinal motility, vagal control of, G501
 glucagon-induced inhibition, hepatic portal alloxan injection effects, R682
 intermittent, effect on renal hemodynamics, F566
 meals
 leucine kinetics during, E695
 thermic effect, short-term training and, E711
 meat meal, renal response to, F613
 α_2 -noradrenergic rhythm, paraventricular nucleus, R83
 palatability, heat production enhanced by, E144
 parenteral nutrition, amino acid disposal, splanchnic and leg tissue, E402
 raw soya flour, pancreatic involution after, cell death and, G9
 refeeding, polyamine biosynthesis and, enterocytes, G709
 salivary responses to, gastric acid secretion and, G85
 sodium appetite, angiotensin II and, R251
 starvation and, plasma and tissue parameters of leucine metabolism, E615
 sucrose, synergistic improvement of glucose tolerance and, E607
 suppression
 CCK-8 (baboon), R851
 CCK-induced, insulin effects (baboon), R856
 Femoral artery
 bilateral stenosis in, exercise training effects, H1050
 endothelium-derived relaxing factor, oxygen free radicals and, H822

flow-dependent dilation, methylene blue and ETYA blocking of, H974
 flow-induced release, endothelium-derived relaxing factor, H1145
 Fenfluramine, inhibition of feeding and gastric emptying (monkey), R764
 Ferritin, ADH-induced water flow, polycation inhibition, C729
 Fetus: *see also* Lactation; Placenta; Pregnancy
 ACTH and renin, cortisol-induced inhibition of (sheep), R795
 auditory response, brain stem (sheep), R137
 CRF infusion, ACTH and cortisol response (lamb), E422
 isovolemic hypotension in (ewe), E564
 metabolic and circulatory studies, mid-gestation (lamb), E538
 negative feedback control, ACTH and renin (sheep), R403
 oxygen consumption, reduction in blood flow, umbilical (sheep), H1037
 oxygen uptake, uteroplacental (ewe), R1099
 protein turnover, uterus, E114
 renal contribution to amniotic fluid osmolality, during maternal hypertonicity (ewe), R235
 weight, placental growth restriction effects (ewe), R427
 Fever
 behavioral, therapy and, *Rickettsia* infection (cricket), R991
 brain temperature changes, interleukin 1-enhanced sleep, R96
 endogenous pyrogens and, R776
 α -MSH antiserum, central administration of, R803
 muramyl dipeptide-induced, plasma metal level changes, C572
 Fibers, dietary, intestinal interaction, G420
 Fibrinogen, aggregation, proteolysis of platelet surface, H550
 Fibrocartilage, knee menisci, response to thermomechanical stress, R65
 Filaments, cytoskeletal, cardiac myocyte stiffness and, H932
 Filtration
 capillary, fluid shifts after hemorrhage, H342
 glomerular
 adenosine infusion and, awake state, F32
 angiotensin and, R960
 angiotensin II control of, adenosine effects, F917
 angiotensin II inhibition, blood pressure and hemodynamics, F308
 atriopeptin II effects, F1119
 calcium effects on renal handling of chloride, F441
 chronic vasopressin infusion effects, H584
 native and artificial tubular fluid, F16
 neural dopamine effects, F674
 rate, atrial natriuretic factor and, F520
 rate, changes in reflex renal nerve activity and, F559
 rate, intermittent feeding effect on renal hemodynamics, F566
 single-nephron, hypertension and, F967
 solute excretion, atrial natriuretic factor effects, F710
 superficial and deep, F86

thromboxane role, spontaneous hypertension, F488
 thromboxane synthetase inhibition, hydronephrotic kidneys, F282
 vasopressin escape, renal, F907
 Fistula, biliary, enterohepatic cycle, absorptive stage (pig), G295
 Flow
 coronary
 α_1 -adrenergic constriction effects, running and, H1117
 regulation, adenosine in, H1033
 regulation, oxygen delivery and (pig), H173
 transmural reserve patterns, H276
 cytometry, cadmium cytotoxicity and increased DNA content, C256
 measurement, anesthesia, microspheres, H137
 molecular, marker, myocardial extraction, H1060
 myocardial, during tachycardia, H938
 path, muscle capillaries (hamster), H899
 plasma, renal, vasopressin effects, H584
 renal plasma rate of, angiotensin II inhibition, blood pressure and hemodynamics, F308
 resistance and, portal hypertension, model, G205
 Flowmetry, laser-Doppler, pentagastrin infusion, gastric mucosa, G575
 Fluid
 amniotic: *see* Amniotic fluid
 body, balance, vasopressin escape and, F907
 cerebrospinal: *see* Cerebrospinal fluid
 extracellular
 changes, taurine in DOCA-salt rats, R1007
 shell size and (turtle), R1133
 shifts
 after hemorrhage, H342
 postural changes and, H68
 transport, baroreceptor control of, intestine, G736
 tubular
 artificial and native, tubuloglomerular feedback responses with, F16
 transport, ion flux effects, proximal, F680
 volume
 body, angiotensin and, R960
 extracellular, kallikrein activity, F1082
 Fluorescence, quin 2, calcium transients, smooth muscle cells, C779
 Follicle-stimulating hormone
 endocrine pulse detection, cluster analysis for, E486
 photo-induced adjustments, testicular function, R199
 secretion, estrogen inhibition, E341
 Food restriction: *see* Feeding
 Force
 electromotive, chord/slope conductances, C333
 measurements, anal canal, G260
 Force-interval relations, ventricular, pacing site on, H414
 Force-velocity relations, diabetic cardiomyopathy, reversal with insulin, H108
 Forearm, metabolism, carbohydrate-induced thermogenesis, E226
 Forskolin
 antagonism of effects, adenosine and, myocytes (guinea pig), H769

Forskolin (*continued*)

- AVP-dependent cAMP production and, thick ascending limbs of Henle, F770
- calcium increase and, gastric glands, G814
- cyclic nucleotide effects and, isometric force in aorta, C468
- nucleotides, nephrogenic diabetes insipidus, F151
- prostaglandin and cholera toxin interactions, cortical collecting tubule, F127
- Frequency response, autoregulation, renal, F364
- Fructose
 - comparison with glucose, thermogenic effects, E718
 - dietary, triglyceride kinetics and, E325
- Fructose 2,6-bisphosphate
 - glycolysis and, muscle, R71
 - hepatic glucose production, insulin inhibition, E346
- Fundus, resistance, acid secretion (frog), G639
- Furosemide
 - angiotensin II and, sodium appetite suppression, R251
 - chloride secretion
 - disulfonic stilbene effects, colon, G44
 - prostaglandin effects, renal epithelial cells (toad), F511
 - effect on parotid secretion (sheep), F503
 - electrolyte transport, retinal pigment epithelium, F781
 - inhibition of feeding with, alloxan effects, R682
 - iodide uptake, cultured thyroid cells (turtle), E464
 - kallikrein excretion, effect of amiloride, F400
 - osmolarity effects, medullary thick ascending limb cells, F176
 - pancreatic acinar secretion and, G140
 - red cell membrane inhibition, potassium-chloride cotransport, C578
 - secretory sodium chloride, volume flow and, kidney tubules (flounder), R753
 - sodium, chloride, and potassium transport, distal tubules, F1013

G

- GABA: *see* γ -Aminobutyric acid
- Galactose, chloride transport and, intestinal (snake), G109
- Gallbladder
 - cholinergic dependence to cholecystokinin, G665
 - contraction patterns, during fasting and after feeding (opossum), G227
 - electroneutral bicarbonate secretion, epithelium, C617
- Ganglia
 - celiac, dorsal root, and nodosal, extrinsic innervation, retrograde tracing study, F189
 - superior cervical, blood flow during normocapnia, H498
- Gap junctions: *see* Junctions
- Gardos response, external calcium, erythrocytes, C55
- Gastric acid
 - blood flow and, gastric mucosa, G575
 - secretion
 - blood flow limitation of, G794
 - calcitonin gene-related peptide CNS actions on, awake state, G742
 - calcitonin inhibition of, G127
 - effects of tachykinins (codfish), G309
 - inhibition of (frog), G511
 - omeprazole and, G455
 - potassium, luminal membrane (frog), G765
 - prostaglandin interactions, G607
 - resistance, fundus and antrum (frog), G639
 - salivary responses to food and, G85
 - thiocyanate effects (bullfrog), G76
- Gastric antrum: *see* Antrum
- Gastric emptying
 - calcitonin inhibition, acid secretion, G127
 - CCK-8 effects (baboon), R851
 - feeding and, inhibition by fenfluramine (monkey), R764
 - food intake and, extra-abdominal pressure effects, R549
 - histamine H_2 -receptor and, G244
 - postcibal, viscosity and fluid outflow effects, G161
- Gastric fistula, control of ingestion and, infant, R807
- Gastric fundus, chloride transport of, omeprazole effects (frog), G118
- Gastric glands
 - calcium increase, cholecystokinin, carbachol, gastrin, histamine, and forskolin effects, G814
 - parietal cell activity, histamine release and, prostaglandin interactions, G607
 - pepsin secretory response, ontogeny of, G200
 - sodium-hydrogen and bicarbonate exchange, G524
- Gastric load, control of ingestion, infant, R807
- Gastric motility: *see* Motility
- Gastric mucosa
 - acid secretion, thiocyanate effects (bullfrog), G76
 - blood flow: *see* Blood flow
 - cell growth, corticosterone effects, during development, G633
 - cell turnover, indomethacin effects, G830
 - chloride transport, omeprazole effects (frog), G118
 - injury, lysolecithin role, G275
 - lesion formation, ischemia time course, G749
 - luminal membrane, potassium selectivity in (frog), G765
 - permeability: *see* Permeability
 - potassium absorption, inhibition by omeprazole, G455
 - resistance and potential of, thiocyanate and omeprazole effects (frog), G511
- Gastric secretion
 - histamine H_2 -receptor involvement in, G244
 - motility effects, cold restraint-induced lesion formation, G191
- Gastrin
 - calcium increase and, gastric glands, G814
 - CNS actions of, gastric acid secretion and, awake state, G742
 - duodenal motility relations, fasting and feeding, G570
 - gastric inhibitory, gastrin release inhibited by, G331

- gastric mucosal cell turnover and, G830
- release, inhibition by gastric inhibitory peptide, G331
- salivary responses, gastric acid secretion and, G85
- Gastritis, mucosal barrier disruption, lysolecithin-lipid interactions in, G275
- Gastrointestinal hormones, cholinergic dependence, gallbladder and pancreas, G665
- Gastrointestinal tract, neurotransmitter enzymes, pentagastrin effects, G546
- Genetic responses, protective, cadmium cytotoxicity and increased DNA content, C256
- Genotype, adipose tissue metabolism and, after short-term overfeeding, E480
- Gestation: *see also* Fetus; Placenta; Pregnancy
 - CRF infusion, ACTH and cortisol response (lamb), E422
 - osmoregulation and vasopressin secretion during, effect of ovarian steroids, E352
- GH: *see* Growth hormone
- Gill
 - angiotensin metabolism (trout), R532
 - catecholamine metabolism (trout), R526
- Glia, brain, ischemia and, R348
- Glicentin, 125 I-labeled, renal catabolism, E545
- Glomerular filtration rate: *see* Filtration
- Glomerulosa cells, adrenal, angiotensin II stimulus, E125
- Glucagon
 - adrenergic blockade, exercise and, liver, R1060
 - AVP-dependent cAMP production and, thick ascending limbs of Henle, F770
 - central action of, hypothalamus, R120
 - epinephrine effects, liver and muscle, E641
 - ethanol effects, splanchnic circulation, G518
 - feeding inhibition, hepatic portal alloxan injection effects, R682
 - glucoregulatory role of cortisol and epinephrine, after adrenalectomy, E393
 - intraportal infusion, suppression of feeding and, R676
 - ketone body metabolism, during fasting and exercise, E495
 - metabolism, nephron, F144
 - naloxone effect, insulin-induced hypoglycemia, E236
 - plasma, during large volume blood sampling, new protocol, E331
 - secretion, changes, cold acclimation and, E669
 - ventromedial hypothalamic lesions, E662
 - VIP receptor antagonist and, G553
- Glucocorticoids
 - adrenal production, liposaccharide and histamine effects, E470
 - diurnal potassium excretory cycles in, F930
 - induction, lipopolysaccharide inhibition, E212
 - LPS-induced secretion, histamine mediation, E243
 - prostaglandin release and, coronary microvessel endothelium, C970
 - receptor complexes, endotoxin treatment effect, E218

- renal responses and, metabolic acidosis, F827
- replacement, adrenalectomy and, development of obesity, R595
- treatment, protein synthesis and, C821
- zinc uptake and, hepatocytes, E677
- Glucocorticosteroids, bronchiolar epithelium development, neonate, R783
- Gluconate
 - potassium fluxes and, distal tubules, F885
 - sodium-chloride transport, rectal gland (dogfish), F516
- Gluconeogenesis
 - estimation, labeled carbon use, E296
 - hepatic, tolbutamide effects, E82
 - parathyroid hormone actions, proximal tubules, F942
- Glucoregulation
 - exercise and, R411
 - opiate-receptor blockade effect, insulin-induced hypoglycemia, E236
 - role of cortisol and epinephrine interactions, after adrenalectomy, E393
- Glucose
 - blood
 - epinephrine effects, liver and muscle, E641
 - thyroid hormone replacement, fasting and, R861
 - calorie source comparison, septic rats, E312
 - circulating, regulation of hepatic glucose output, exercise and, R411
 - clearance, insulin sensitivity and, model, E591
 - comparison with fructose, thermogenic effects, E718
 - dietary, triglyceride kinetics and, E325
 - disposal
 - insulin dose-dependent reductions, E13
 - oscillation effects on, E576
 - feeding and gastric emptying, inhibition by fenfluramine (monkey), R764
 - infusion, role of insulin concentration changes, E306
 - insulin-mediated uptake, rate-limiting steps, hindlimb, E100
 - ketone body metabolism, during fasting and exercise, E495
 - load, skeletal muscle thermogenesis and, E226
 - metabolic clearance, role of cortisol and epinephrine, E393
 - metabolism
 - epitrochlearis muscle, E137
 - iron-deficient anemia, E414
 - naloxone effect, insulin-induced hypoglycemia, E236
 - osmolality and solute transport, proximal tubules, F246
 - oxidation, cyclic adenosine monophosphate, myotubes, C712
 - plasma
 - CCK effects (baboon), R856
 - CCK-8 effects (baboon), R851
 - hemorrhagic shock, R951
 - production
 - inhibition by insulin, E346
 - insulin-induced hypoglycemia, E236
 - role of cortisol and epinephrine, E393
 - protein degradation and, heart, C932
 - sodium absorption, developing colon, G221
- sodium-coupled transport and, proximal tubules, F953
- stress protein systems, mammalian cells, C1
- tolerance
 - chronic decerebration, insulin secretion in, R539
 - synergistic improvement of, sucrose feeding and exercise training, E607
- training effects, skeletal muscle, E570
- transport
 - cytoplasmic alkalization, insulin-induced, C720
 - measurement of resistance to, jejunum, G727
 - sulfhydryl substituents and, erythrocytes, C853
- transport and metabolism, brain, model, R127
- turnover (tuna), R452
- uptake
 - adenosine effects, adipose tissue, H1127
 - midgestation (lamb), E538
 - myocardial, H23
- utilization
 - after ozone exposure, lung, E131
 - ventromedial hypothalamic lesions, E662
- Glucose clamp, stepwise, hyperglycemia, insulin response to, E655
- Glucose 6-phosphate, hepatic glucose production, insulin inhibition, E346
- Glucose polymers, absorption, pancreatic amylase-deprived jejunum, G824
- Glutamate, VIP release, cerebral cortex, R104
- L-Glutamate, gastric and arterial pressure, modulation by nucleus tractus solitarius, R996
- Glutamate dehydrogenase, pathway, secretion effects, pancreatic islets, E107
- Glutaminase, phosphate-dependent, potassium depletion and, renal mitochondria, F667
- Glutamine
 - adaptations in nitrogen metabolism, during fasting, E622
 - flow regulation, interorganal, metabolic acidosis, E457
 - homeostasis, in acidosis, E457
 - lipolysis and ketogenesis regulation, during fasting, E248
 - metabolism
 - during potassium depletion, renal mitochondria, F667
 - ureagenesis, F605
 - substrate metabolism and, jejunal epithelium, C191
- Glutamamic acid, derivatives, peripheral tissues, G856
- Glutathione
 - efflux, hepatocytes, G236
 - oxidation reduction, PTH secretion and, E470
- Glutathione-maleimide, hexose transport and, erythrocytes, C853
- Glycemia, norepinephrine and epinephrine infusion, metabolic effects, E518
- Glycerol
 - glutamine effect, during fasting, E248
 - volume depletion, acute renal failure, F315
- Glycine, serine synthesis, kidney, F649
- Glycogen
 - bronchiolar epithelium development, neonate, R783
 - metabolism, electrical stimulation and, skeletal muscle, C84
 - synthesis, insulin effects, E137
- Glycogenolysis
 - epinephrine effects, exercise, liver and muscle, E641
 - hepatic, exercise and, R411
- Glycogen phosphorylase, hepatic glucose production, insulin inhibition, E346
- Glycogen synthase, hepatic glucose production, insulin inhibition, E346
- Glycolysis
 - glucose production, inhibition by insulin, E346
 - glucose utilization by, epitrochlearis muscle, E137
 - hepatic, tolbutamide effects, E82
 - isometric contraction and, muscle, C834
 - phosphofructokinase control and, muscle, R71
 - suppression, phosphofructokinase, ischemic heart, R512
- Glycosides
 - cardiac
 - contracture tension and (frog), C155
 - postrest inotropy, H654
- Golgi complex, sodium-potassium-ATPase distribution in parotid gland and, C430
- Gonadotroph, LH secretion, pre- and postpartum (sheep), E282
- Gonadotropin-releasing factor, TRH and, stimulation of growth hormone, E512
- Gonadotropin-releasing hormone, antagonist, estrogen inhibition of LH and FSH secretion and, E341
- Gonadotropins
 - estrogen inhibition of LH and FSH secretion, effects of GnRH antagonist, E341
 - pulsatile secretion, interval sequence analysis, E338
- Gracilis muscle, ischemia, H213
- GRF: see Gonadotropin-releasing factor
- Growth factor
 - B-nerve, aggressive behavior and, E386
 - renal proximal tubule, phorbol ester-induced alkalization, F451
- Growth factor-tumor promoter, dynamics, model, R1123
- Growth hormone
 - cells, estradiol-induced shift, E103
 - direct action, shown by arterial infusion, E231
 - effects on insulin action, acromegaly, E269
 - local administration, longitudinal bone growth and, E367
 - secretion, sex differences, E650
 - stimulation, TRH and GRF, E512
- Growth hormone-releasing factor
 - sex differences, E650
 - VIP receptor antagonist and, G553
- Growth: see also Development; Maturation
 - adaptive, during pregnancy, uterus, E114
 - factor, insulin-like, mitogens and myoblast differentiation, C771
 - pancreatic acinar cells, caerulein effects, G440
- β -Guanidinopropionic acid, phosphagen and intracellular pH changes, crea-

- β -Guanidinopropionic (*continued*)
tine-depleted muscle contraction,
C264
- Guanosine diphosphate
binding
diet and photoperiod effects, brown fat
(hamster), R383
high-fat diet effects, brown fat (ham-
ster), R389
- Guanosine monophosphate, cyclic
atrioventricular III effects, glomeruli and
proximal tubules, F27
- flow-
dependent dilation, methylene blue
and ETYA blocking of, H974
pepsinogen secretion and, esophageal
mucosa (frog), G361
- Guanylate cyclase
atrioventricular III effects, glomeruli and
proximal tubules, F27
flow-dependent dilation, methylene blue
and ETYA blocking of, H974
- Gut: see Intestines

H

- Haloperidol, glomerular filtration rate and,
kidney, F674
- Hapten, anti-amiloride antibodies, C165
- Heart
adaptations, dobutamine-induced, H725
adenosine formation, supply-to-demand
oxygen ratio effects (pig), H173
arrest, protein degradation, aortic pres-
sure, C932
autonomic control, differential, H43
basal metabolism, factors regulating,
H998
calcium regulation (frog), C155
calcium uptake
changing calcium-to-hydrogen ratio ef-
fects, H360
thyroidectomy of spontaneous hyper-
tension and, H861
catecholamine uptake, hemorrhage,
awake state, H76
chronotropic responsiveness, uremia
and, H846
denervation, catecholamine uptake,
awake state, H76
diabetic
mRNA activity, insulin effects, E558
streptozotocin-induced, adults, E402
end-systolic pressure-volume line, slope
of, H685
failure
development of, ventricular excitabil-
ity during, awake state, H1022
verapamil effects (hamster), H22
fatty acid metabolism, elevated levels of
coenzyme A and, H351
filling and nonfilling, left ventricular re-
laxation in, H620
flow measurements, anesthesia, micro-
spheres, H137
function
 α_1 -adrenergic constriction effects, run-
ning and, H1117
hypertensive, hypothyroidism and,
H600
lethal and nonlethal endotoxin, H240
glucose uptake, multiple tracer dilution
estimates, H29
hypertrophy: see Hypertrophy
intracellular diffusion gradients, oxygen,
adenosine triphosphate, C663
- ischemic, phosphofructokinase in, R512
isolated, ventricular efficiency, analytical
model, R1021
lung, myocardial responses to isoproter-
enol, naloxone effects, H749
necrosis, cold acclimation and (hamster),
R167
norepinephrine turnover, septic peritoni-
tis, R892
- performance
improvement in heart failure, verapa-
mil and (hamster), H22
lipid content and, diabetes, fatty acid
effects, H1079
periphery and, optimum power output,
H961
pressure-volume diagram, H167
protein degradation, aortic pressure ef-
fects, C932
protein synthesis, glucocorticoid treat-
ment effects, C821
regional differences, myocyte hypertro-
phy and three-dimensional deforma-
tion, H378
sarcolemmal mitochondria, heteroge-
neous responses to calcium, H741
- Heart atria
isomyosins, thyroxine effects, H333
left stretch, atriopeptin infusion compar-
ison, awake state, R221
natriuretic factor: see Natriuretic factor,
atrial
natriuretic peptide
localization, kidney and adrenal gland,
F753
renin secretion and, renal, F798
pacemaker complex, cardiac nerve ef-
fects, H630
peptide nerves, calcitonin gene-related
(guinea pig), H693
right, volume during hemorrhage, H1136
stretch, natriuresis and atrial peptides,
R946
- Heart cells: see also Cardiac cells;
Myocytes
cultured, coupled sodium-calcium trans-
port, C442
oxygenation analysis, intracellular, adult
cardiac myocytes, C384
oxygen dependence, mitochondrial func-
tion and, C374
sodium-potassium-ATPase, low-sodium
effects, C32
- Heart rate
 α -adrenergic blockade, static exercise
and, R1
aortic stenosis and, awake state, H159
bilateral carotid reflex interaction, H96
blood pressure and, endorphin effects,
H796
cardiac nerve effects, H630
during large volume blood sampling, new
protocol, E331
extracellular potassium accumulation
and, myocardial ischemia, H982
fastigial nucleus brain stem lesions,
H231
lowering calcium and, nucleus tractus so-
litaris, H226
radio-frequency exposure, ECG during,
H320
spontaneous motor activity and, arterial
baroreflexes in, H426
thyroid hormone replacement, fasting
and, R861
- Heart ventricles
anteroventral third, skeletal muscle vas-
odilation during electrical stimula-
tion and, H221
augmentation of sarcolemmal calcium,
anionic amphiphile, H247
efficiency, analytical model, R1021
excitability, chronic heart failure and,
awake state, H1022
function
embryo (chick), H407
preload reserve and, awake state,
H464
isomyosins, thyroxine effects, H333
postrest inotropy, H654
relaxation, calcium uptake and, sarco-
plasmic reticulum, H861
ryanodine, caffeine comparison and,
H786
viscoelastic properties, measurement of,
H672
- Heart ventricles, left
eccentricity of, myocyte hypertrophy,
H378
end-systolic pressure-volume line, H685
force-interval relations, pacing site on,
H414
hypertrophy: see Hypertrophy
ischemic wall, gradients in fiber shorten-
ing, H255
optimum power output, H961
pressure-volume relations, peak isovol-
umic, H167
regional work, wall tension-area loop,
H151
relaxation, filling and nonfilling heart,
H620
volume, biplanar ventriculography, H131
- Heat
exchange, critical radius of endotherms
and, newborn, R699
production
effect of meal size and frequency, E144
ventromedial hypothalamus and,
awake state, R560
shock: see Shock
stress, dehydration and, blood flow, leg
(baboon), R30
- Hematocrit
blood densitometry, fluid shifts after
hemorrhage, H342
during large volume blood sampling, new
protocol, E331
hemorrhagic shock and, R951
microvascular, during hemodilution and
hemoconcentration, H908
- Hemoconcentration, microvascular hemo-
dynamics during, H908
- Hemodilution, microvascular hemo-
dynamics during, H908
- Hemoglobins, multiple, whole blood
(sheep), R298
- Hemoperfusion, large volume, new proto-
col, E331
- Hemorrhage
atrial volume during, H1136
blood flow during, adrenal medullary and
cortical, H954
blood loss, catecholamine release and,
E18
catecholamine uptake during, heart,
awake state, H76
drinking, angiotensin-stimulated (fish),
R1034
hypotension after, reflex compensatory
systems, interactions among, H944

- hypoxia and, renin and ACTH during, awake state, R240
- rate of
- adrenocorticotropin release and, E76
 - sympathoadrenal catecholamine release and, E69
 - tubuloglomerular feedback control, distal fluid delivery, F1024
- Hemorrhagic shock: *see* Shock
- Henle's loop
- diuretic drug effects, sodium, chloride, and potassium transport, F1013
 - nucleotides, nephrogenic diabetes insipidus, F151
 - thick ascending limbs, AVP-dependent cAMP production, calcium effects, F770
- Heparin-like molecules, anticoagulant active, mast cell deficiency, H879
- Hepatocytes
- cultured, temperature acclimation in (teleost), R211
 - epidermal growth factor, binding sites, adult, G760
 - glutathione efflux from, G236
 - intracellular diffusion gradients, oxygen, adenosine triphosphate, C663
 - intracellular pH, ionic requirements for regulation (trout), R24
 - isolated, extracellular ATP effects, R573
 - zinc uptake kinetics, E677
- HEPES: *see* N-2-Hydroxyethylpiperazine-N'-2-ethanesulfonic acid
- Heredity
- adipose tissue metabolism, genotype dependency of adaptation, E480
 - changes, short-term exercise, E711
- Heterodimer, heavy chain heterogeneity, smooth muscle myosin, C861
- Hexamethonium, vagal nerve stimulation pretreatment, effect on somatostatin secretion, E212
- Hexose
- transport
 - cell proliferation, LLC-PK, epithelia, C314
 - LLC-PK, cells, density gradients, C199
 - sulphydryl substituents and, erythrocytes, C853
 - uptake, cytoplasmic alkalization, insulin-induced, C720
- Hexose shunt, calcium-mediated stimulation, parathyroid cell, E475
- Hibernation
- pepsinogen secretion and, esophageal peptic glands (frog), G484
 - vascular smooth muscle response, season and temperature effects (woodchuck), R77
- Hindlimb, perfused preparations, blood flow distribution, E441
- Histamine
- calcium increase and, gastric glands, G814
 - corticosterone secretion, pituitary-independent, E470
 - H₁ action, aldosterone and cortisol secretion, adrenal, E523
 - H₂-receptor, gastric emptying and, G244
 - protein leakage, hypertension, verapamil effects, H284
 - relaxation, aortic rings, hypertension and, H711
 - release, prostaglandin interactions, gastric glands, G607
 - role in corticosterone secretion, peripheral tissues, E243
 - stimulated gastric acid secretion, blood flow limitation and, G794
- Histidine decarboxylase, lipopolysaccharide effect, spleen, lung, liver, E243
- Histomorphometry
- bicarbonate and magnesium effects, dietary alteration, bone, F302
 - bone loss, calcitriol effects, E35
- Homeostasis, predictive vs. reactive, circadian timing system, R737
- Hormone regulation, active sodium transport, A6 epithelia, modeling of, C978
- Hormones: *see also* specific hormone changes, short-term exercise, E711
- pulse detection, cluster analysis for, E486
- Hybridization, RNA-DNA dot-blot, intrarenal angiotensinogen mRNA, F374
- Hydration, increased prostaglandin E₂ excretion, arginine vasopressin effects, F1008
- Hydrochloric acid, amelioration, hypoxia-induced lactic acidosis, F702
- Hydrocortisone, pepsin secretory response, gastric glands, G200
- Hydrodynamics, viscosity and, postcibal gastric emptying, G161
- Hydrogen
- cytosolic free calcium and alkali metal exchange, *Amphiuma* volume regulation, C423
 - luminal, gastric mucosal permeability response to, G617
- Hydrogen gas, clearance, gastric acid secretion and blood flow, G794
- Hydrogen ions
- concentration, effect on corticosteroid secretion, E259
 - erythrocyte metabolism and (chicken), R260
 - excretion, gastric chloride transport, omeprazole and (frog), G118
 - microelectrode, complete brain ischemia, R348
 - renal secretion, carbon-dioxide-independent, elasmobranch (dogfish), F288
 - secretory rate, gastric mucosa (frog), G511
- Hydrogen peroxide
- myocardial function and, H595
 - production, mesangial cells, during phagocytosis, F596
 - vascular smooth muscle and, H815
- Hydrogen-potassium-ATPase, electro-neutral, gastric mucosa, G455
- Hydromineral, excretion, renal, calcitonin effects (sheep), R980
- Hydronephrosis, renal thromboxane inhibition, F282
- Hydroxyapatite, dietary effects, alteration of bicarbonate and magnesium, F302
- β -Hydroxybutyrate
- glutamine effects, during fasting, E248
 - ketone body metabolism, during fasting and exercise, E495
 - metabolism rate, starvation and diabetes, brain, E169
- 18-Hydroxycorticosterone, secretion, effect of hydrogen ion concentration, E259
- N-2-Hydroxyethylpiperazine-N'-2-ethanesulfonic acid, pH effects, proximal tubule, F261
- Hydroxyl, vascular smooth muscle and, H815
- Hydroxymethyltransferase, serine synthesis, kidney, F649
- 5-Hydroxytryptamine
- abdominal visceral afferent stimulation, R465
 - relaxation time, norepinephrine-induced vasoconstriction, H121
 - thermoreponsive neurons and, brain stem, R553
- Hypercalcemia
- AVP-dependent cAMP production and, thick ascending limbs of Henle, F770
 - ovine prolactin effects (tilapia), R161
 - parathyroid hormone and, blood pressure, renal failure, F924
 - renal handling of sodium, chloride, and bicarbonate, calcium effects, F441
- Hypercalciuria, renal, metabolic acidosis, F827
- Hypercapnia
- ACE activity and, cerebral microcirculation, H806
 - amelioration, hypoxia-induced lactic acidosis, F702
 - intracellular pH and ion transport, ileal, G588
 - neurohypophyseal blood flow and, H7
 - regional circulatory responses to (geese), R499
- Hypercupremia, muramyl dipeptide-induced fever, plasma metal level changes, C572
- Hyperemia
- exercise
 - diameter and blood flow and, skeletal muscle, H828
 - dipyridamole potentiation of, skeletal muscle, H62 - hypoxic, adenosine deaminase effects, H579
 - intestinal, thromboxane synthesis inhibition and, G64
 - postocclusive reactive, cutaneous blood flow during, H765
 - reactive
 - one-beat coronary occlusion and, awake state, H474
 - transmural flow reserve, H276
- Hyperglycemia
- glucagon and, suppression of feeding, R676
 - short-term, insulin secretion and, E655
- Hyperinsulinemia
- chronic decerebration and, R539
 - triglyceride kinetics, dietary sugar effects, E325
- Hypermagnesemia, dietary effects, bicarbonate alteration and, bone, F302
- Hyperosmolality, amniotic fluid, fetal renal contribution to (ewe), R235
- Hyperoxia, endothelium-derived relaxing factor and, H822
- Hyperplasia, prostatic, benign, aging effects, R1039
- Hypertension
- α -adrenoceptors and cAMP, glomeruli, F103
 - angiotensin II and, nucleus tractus solitarius, R193
 - angiotensin-induced, neurohumoral contributions to, H52
 - aortic rings, relaxation in, H711

Hypertension (continued)

- atrial natriuretic factor responses to, model, H871
 - carotid baroreflex function and, aging effects, R1047
 - chronic portal, gastrointestinal blood flow and, G535
 - chronic vasopressin infusion, renal actions of, H584
 - control of sodium excretion, angiotensin and, R960
 - development of, aortic caliber changes, H662
 - endogenous opiate effects, renin release and, R633
 - genetic, role of thromboxane, F488
 - histamine-induced protein leakage, verapamil effects, H284
 - increased tubuloglomerular feedback activity in, F967
 - low-sodium, renal nerves in, H189
 - membrane ATPase function, vascular smooth muscles, C535
 - methionine-enkephalin, vasopressin and, dehydration effects, R1007
 - mineralocorticoid-salt, active sodium-potassium transport alterations, C540
 - portal, flow and resistance in, model, G205
 - potassium-return relaxation, ATPase mechanism, arterial muscles, C557
 - renal
 - chronic effects of adenosine, F32
 - renin-angiotensin system, RNA-DNA dot-blot hybrids, F374
 - renovascular, renal afferent nerve, H82
 - sodium and ouabain effects, aorta, H612
 - spontaneous
 - antihypertensive effects of thyroidectomy in, H600
 - arteriolar response to oxygen, H761
 - calcium transport in, G412
 - inorganic phosphate transport, renal brush borders, F470
 - ouabain binding, vascular smooth muscle cells, C948
 - sodium-potassium regulation in, vascular smooth muscle cells, C939
 - sympathoexcitatory neurons in, R910
 - thyroidectomy of, H861
 - vasopressin and renin response, H443
 - transmembrane potential, sodium-potassium pump, C547
 - vascular reactivity during, renal, H1043
 - vasopressin escape, pressure diuresis role in, F907
- Hypertonicity, maternal, fetal renal contribution to amniotic fluid osmolality (ewe), R235
- Hypertrophy
- cardiac
 - glucocorticoid treatment effects, C821
 - ouabain effects, H923
 - phospholipid metabolism in, H1
 - cell, intestinal muscle, after jejunoileal bypass, G70
 - hypertension, thyroidectomy effects, calcium uptake, sarcoplasmic reticulum, H861
 - intercellular electrical coupling and, intestinal smooth muscle, C292
 - left ventricular, tachycardia with, myocardial blood flow during, H968
 - vascular, renal, H1043
- Hypocapnia
- intracellular pH and ion transport, ileal, G588

- regional circulatory responses to (geese), R499
 - sinoaortic denervation and hypoxia, awake state (sheep), R868
- Hypoferremia, muramyl dipeptide-induced fever, plasma metal level changes, C572
- Hypoglycemia
- glucose metabolism, brain, R127
 - insulin-induced, opiate-receptor blockade effect, E236
- Hypokalemia
- chloride-depletion alkalosis, kidney, F54
 - renin, ACTH, and adrenocortical function during, awake state, R240
- Hyponatremia, sustained, osmoregulation of vasopressin and oxytocin after, R444
- Hypoperfusion, coronary, adrenergic anti-transmural steal, H645
- Hypophosphatemia, transport of inorganic phosphate, spontaneous hypertension, F470
- Hypophosphaturia, transport of inorganic phosphate, spontaneous hypertension, F470
- Hypophysectomy, calmodulin and calmodulin-binding protein activities, testis, C299
- Hypotension
- ACTH and renin, cortisol-induced inhibition of, fetus (sheep), R795
 - baroreceptor control, fluid transport and blood pressure, jejunum, G736
 - blood flow during, adrenal medullary and cortical, H954
 - calcium lowering and, nucleus tractus solitarius, H226
 - hypovolemic, continuous blood densitometry, H342
 - isovolemic, fetal (ewe), E564
 - negative feedback control, ACTH and renin, fetal and adult (sheep), R403
 - posthemorrhage, reflex compensatory systems, interactions among, H944
- Hypothalamo-neurohypophyseal system, plasma arginine vasotocin regulation, awake state (cockere), R644, R658
- Hypothalamus
- cholinergic stimulation, natriuresis, role of renal nerves, F322
 - glucagon action, R120
 - lesions, hemorrhage and, corticosteroid and plasma restitution, R18
 - neuronal cultures, brain stem and, angiotensin II-stimulated norepinephrine uptake, C236
 - preoptic tissue slices, neurons in, testosterone, estradiol and temperature effects, R625
 - ventromedial
 - lesions, insulin action after, E662
 - stimulation, thermoregulation and, awake state, R560
- Hypothyroidism
- hypertension, calcium uptake and, sarcoplasmic reticulum, H861
 - spontaneous hypertension and, heart performance, H600
- Hypotonicity, osmolality and solute transport, proximal tubules, F246
- Hypovolemia
- neurohypophyseal secretion and, R267
 - plasma volume loss, vasopressin and renin response to, H443
 - thyrotropin-releasing hormone in, H1093

- Hypoxemia
- arterial, neurohypophyseal blood flow and, H7
 - renal responses, renal denervation effects, F294
- Hypoxia
- ACE activity and, cerebral microcirculation, H806
 - cell ATP, renal tubules, F720
 - deep, acid-base balance and (trout), R319
 - experimental, peripheral nerves, E94
 - hemorrhage and, renin and ACTH during, awake state, R240
 - intracellular analysis, adult cardiac myocytes, C384
 - lactic acidosis, amelioration of, F702
 - mitochondrial function and, cardiac myocytes, C374
 - neurohypophyseal blood flow and, H7
 - papillary muscle, improvement in relaxation by nifedipine, H208
 - prostaglandin release, sodium-chloride transport, MDCK cells, C676
 - serotonin uptake, pulmonary artery endothelial cells, C766
 - sinoaortic denervation and, peripheral circulatory responses to, awake state (sheep), R868
 - systemic, coronary vasodilation during, adenosine effects, H579
- Hysteric enzymes, phosphofructokinase, myocardium, F505

I

- Ileal mucosa
- cells, neurotensin release, G374
 - enteric primary cells, neurotensin release, G385
- Ileum
- ascorbic acid transport (guinea pig), G461
 - electrolyte transport, gamma radiation effects, G540
 - electromechanical, indomethacin and prostaglandin E₂ effects, G135
 - intracellular pH and ion transport, systemic acid-base disorder effects, G588
 - ion transport, β -casomorphin effects, G92
 - propulsive behavior, G653
 - taurocholate absorption, free bile acid effects, G648
- Iliac artery, vasoactivity, endothelial-mediated, awake state, H892
- Imidazole
- carbon-dioxide-independent renal secretion and, elasmobranch (dogfish), F288
 - gastric acid secretion and (bullfrog), G76
 - hyperemia and oxygenation, intestines, G64
- Imipramine, serotonin uptake, pulmonary artery endothelium, C761
- Immunochromatography, cell separation, kidney cortex, F386
- Immunoelectrophoresis, phosphofructokinase dissociation, ischemic heart, R512
- Immunofluorescence
- mapping subcellular distribution, sodium-potassium-ATPase distribution in parotid gland, C430
 - thyroid hormone, atrial and ventricular isomyosins and, H333

SUBJECT INDEX TO VOLUME 250

- Immunoneutralization, central, α -MSH antiserum effects, R803
 - Immunoprecipitation
 - cAMP-dependent protein kinase transport, renal brush-border membranes, F659
 - cultured isozyme levels, skeletal muscle phosphorylase kinase, C365
 - isozymes of phosphorylase kinase, skeletal muscle, C84
 - Immunoreactivity, IgM monoclonal antibody, osmotic blood-brain barrier opening to, R875
 - Immunotherapy, IgM monoclonal antibody, osmotic blood-brain barrier opening to, R875
 - Indicator-dilution technique
 - ACE activity, hypoxia and hypercapnia effects, cerebral microcirculation, H806
 - extraction of tritium oxide, pulmonary endothelial, H1017
 - multiple, adenosine uptake, skeletal muscle, H482
 - Indomethacin
 - arachidonic acid metabolites, gap junctions, trachea, C495
 - centrally administered calcitonin and, jejunal water and electrolyte secretion, G172
 - chloride concentration gradient across, prostaglandin role, F525
 - chloride concentration gradient effect, prostaglandins and, F525
 - chloride secretion, disulfonic stilbene effects, colon, G44
 - denervation and, renal, F895
 - diltiazem-induced natriuresis and, renal kinin-prostaglandin, F197
 - dose-response effects, ileum, G135
 - furosemide response and, prostaglandin effects, F980
 - gastric mucosal cell turnover and, G830
 - oxygen reactivity, arteriolar, H1102
 - papillary solute concentration and, potassium deficiency, F97
 - prostaglandin E_2 release and, burn injury, R207
 - prostaglandin release, transepithelial transport, calcium ionophores, C629
 - Infant: see Neonate
 - Ingestion: see Feeding
 - Innervation, gradient of, longitudinal muscle contractions (opposum), G336
 - Inosine, oxygen delivery effects, heart (pig), H173
 - Inositol
 - triphosphate
 - angiotensin effects, vascular smooth muscle cells, F759
 - calcium release enhancement, skinned cardiac and skeletal muscle, C807
 - fertilization potentials (sea urchin eggs), C340
 - Inotropy
 - postrest, ventricular, H654
 - relaxation relations, myocardium, H1008
 - Insulin
 - action
 - free fatty acids and blood amino acids, E686
 - heart cells, diabetic rats, E402
 - ventromedial hypothalamic lesions and, E662
 - adrenergic blockade, exercise and, liver, R1060
 - α -adrenergic-stimulated respiration, brown adipocytes, C738
 - binding
 - acromegaly, E269
 - β -adrenergic modulation, skeletal muscle, E198
 - exercise and, skeletal muscle, E186
 - heart cells, diabetic rats, E402
 - training effects, skeletal muscle sarcolemmal vesicles, E570
 - concentration, glucose infusion and, E306
 - degradation, cultured hepatocytes, E148
 - diabetic cardiomyopathy and, H108
 - disposal, oscillation effects on, E576
 - dose-dependent reductions, plasma amino acids, E13
 - epinephrine effects, liver and muscle, E641
 - fructose and glucose comparison, thermogenic effects, E718
 - glucoregulation, after adrenalectomy, E393
 - glucose production inhibited by, contribution of glycolysis, E346
 - glucose uptake, rate-limiting steps, hindlimb, E100
 - induced cytoplasmic alkalinization, glucose transport, muscle cells, C720
 - intracisternal, CCK-induced meal suppression and (baboon), R856
 - ketone body metabolism, during fasting and exercise, E495
 - metabolism
 - diabetes, E530
 - nephron, F144
 - mRNA activity and, diabetic heart, E558
 - myoblast stimulation, biphasic concentration dependency, somatomedins, C771
- plasma
 - CCK-8 effects (baboon), R851
 - during large volume blood sampling, new protocol, E331
- regulation
 - active sodium transport, A6 epithelia, models, C978
 - hepatic glucose output, exercise and, R411
- release
 - cholecystokinin effects, pancreas, G405
 - glucose-stimulated, secretin effects, pancreatic islets, E107
 - pancreatic β -cells and, E502
 - sodium requirement, intracellular pH regulation, C207
- secretion
 - changes, cold acclimation and, E669
 - pre- and postabsorptive, chronic decerebration, R539
 - short-term hyperglycemia effects, E655
- sensitivity
 - glucose clearance and, model, E591
 - glucose metabolism, epitrochlearis muscle, E137
- serum, norepinephrine and epinephrine infusion effects, E518
- supplementation, chronic renal failure, E373
- therapy, cardiac lipids and performance, diabetes, H1079
- triglyceride production and, dietary sugar effects, E325
- Insulinlike growth factor 1, local administration, longitudinal bone growth and, E367
- Intercalated cells, clathrin localization, tubulovesicles, C605
- Interdigestive migrating complex, electrogastrographic characteristics, G165
- Interleukin 1, temperature and, sleep and brain, R96
- Interstitial cells, differentiation from brown adipocytes, cold acclimation and, C880
- Interstitial, adenosine role, coronary autoregulation, H558
- Intestinal cells, epidermal growth factor processing in, suckling and adult, G842
- Intestinal hormone, phorbol ester effects, cultured cells, intestine, G686
- Intestinal mucosa, protein and sucrose-isomaltase synthesis, diabetes, G788
- Intestinal sacs, everted, calcium transport, G561
- Intestines
 - absorption, patothenic acid (rat, chick), G155
 - active potassium secretion, G475
 - anaphylaxis, G427
 - ascorbate absorption (guinea pig), G461
 - calcium, bile salts and, G248
 - calcium transport, G561
 - chloride transport
 - disulfonic stilbene effects, G44
 - sugar and amino acid effects (*Amphiuma*), G109
 - electrical activity, G28
 - epithelium, chloride secretion, G185
 - fluid transport, baroreceptor control of, G736
 - hyperemia: see Hyperemia
 - immunity, myoelectric activity, anamnestic stimulus-specific, G266
 - interaction, bile acids and phospholipids, G420
 - interstitial matrix hydration, chylomicron transport and, G497
 - ion transport
 - β -casomorphin effects, G92
 - diarrheal disease and, G1
 - lower, modification of ureteral urine (sparrow), R89
 - membrane vesicles, somatostatin binding and degradation (pig), G679
 - motility: see Motility
 - musculature, slow waves, G28
 - phosphate absorption, vitamin D effects, G369
 - potassium secretion, adrenergic stimulation of, G432
 - secretion, calcitonin and, G172
 - sugar transport, sodium gradients and, G448
- Intestines, small
 - barriers to solute transport, measurement of resistance to, C327
 - blood flow to wall layers, microsphere method, G670
 - butyric acid transport, pH and anion transport effects G469
 - chylomicron transport, by enterocytes to lymphatics, G715
 - enterocytes, postnatal maturation of, G177
 - enterokinase modulation, pancreaticobiliary factors in, G103
 - immunity, myoelectric activity, G266
 - microsphere method, G670
 - motility: see Motility
 - myenteric plexus, inhibitory peptidergic neurons in, G60

- Intestines, small (*continued*)
 protein and sucrose-isomaltase synthesis, diabetes, G788
 slow waves, G28
 substance P effects, G21
 sugar transport, sodium gradients and, G448
- Intralipid, free fatty acid effects, blood amino acids, E686
- Inulin, soleus muscle grafts, structure and function, C474
- Iodide
 transfer, placenta (sheep), R112
 transport
 effects of sodium, thyroid cells (turtle), E464
 valinomycin effect, thyroid, E164
- Iododermethylimipramine, extraction and retention, myocardial, H1060
- Ion channels, patch-clamp technique, renal tissues, F379
- Ionic currents, pacemaker cells, sinoatrial node, H325
- Ionomycin, calcium ionophores, transepithelial transport, C629
- Ionophore A23187
 effect on potassium efflux, adrenal glomerulosa cells, E125
 pepsinogen secretion and, esophageal mucosa (frog), G361
 pepsin secretory response, gastric glands, G200
 potassium recycling and chloride secretion, barium inhibition, C486
 prostaglandin release, transepithelial transport, C629
 skeletal muscle phosphorylase kinase, cultured isozyme levels, C365
- Ionoregulation, deep hypoxia effects, acid-base balance (trout), R319
- Ions
 concentrations, sodium-potassium transport, hypertension, C540
 electroneutral transport, cytosolic free calcium and alkali metal-hydrogen exchange, red blood cell volume regulation, C423
 fluxes, fluid transport and, proximal tubule, F680
 intestinal, transport, diarrheal disease and, G1
 intracellular activities, effects of sodium on iodide transport, thyroid cells (turtle), E464
 transfer process, deep hypoxia effects on acid-base balance (trout), R319
 transport
 across alveolar monolayers, C222
 basolateral cell membrane, liver, G35
 β -casomorphin effects, ileum, G92
 distal colon, neonatal, G754
 electrogenic, hypertension, C557
 measurements, antral mucosa (salamander), G625
 sodium-chloride, parotid gland (sheep), F503
 systemic acid-base disorders and, G588
- Iron
 deficiency, glucose turnover and oxidation, anemia, E414
 plasma level changes, muramyl dipeptide-induced fever, C572
- Ischemia
 brain, carbonic acid buffer changes during, R348
- heart muscle, ATP depletion, oligomycin and acidosis effects, H503
- metabolic response to, skeletal muscle, H213
- myocardial
 coronary blood flow, microembolization, H509
 extracellular potassium accumulation, H982
 phase of contraction during, H778
 prolonged, pyruvate effects, H114
 reactive hyperemia following, awake state, H474
- peripheral nerves, experimental, E94
- renal
 ATP-magnesium chloride, acute renal failure and, F834
 calcium and, F579
 mitochondrial calcium transport, F357
 stimulated muscle, energy metabolism of, C813
 subendocardial, transmural flow reserve, H276
 time course, mucosal lesion formation, G749
- Isethionate, pancreatic acinar secretion and, G140
- Islets of Langerhans: *see* Pancreatic islets
- Isobutylmethylxanthine
 epithelial cell volume, cAMP effects, cytoskeleton of MDCK cells, C319
 pepsinogen secretion and, esophageal mucosa (frog), G361
 prostaglandin interactions, gastric glands, G607
- Isoelectric focusing, renin, E551
- Isoleucine, activation of α -keto acid dehydrogenase, skeletal muscle, E599
- Isomyosins, atrial and ventricular, thyroxine effects, H333
- Isoproterenol
 blood flow measurement, small intestine, G670
 fasting, thyroid hormone replacement and, R861
 multiple neuropeptides, single smooth muscle cell effects, C792
 myocardial responses to, naloxone effects, heart-lung, H749
 oxygen delivery effects, heart (pig), H173
 pepsinogen secretion, seasonal variations in, esophageal peptic glands (frog), G484
 ventricular cardiac muscle cells, H731
- Isotopes
 dilution, gluconeogenesis estimation, E296
 stable, glucose infusion response, E306
- Isovolumic phase, myocardial ischemia, H778
- J
- Jejunum
 barriers to solute transport, measurement of resistance to, G727
 blood flow: *see* Blood flow
 calcium effects, bile salts, G248
 epithelial cells, substrate metabolism, C191
 fluid transport, baroreceptor control of, G736
 pancreatic amylase-deprived, glucose polymer absorption, G824
 response, antigen exposure, G427
 water and electrolyte secretion, calcitonin effects, G172
- Junctions
 gap
 epithelial cell cooperation
 formation control, arachidonic acid metabolism, trachea, C495
 potassium transfer, C306
 occluding, LLC-PK₁ renal cells, F734
- Juxtaglomerular apparatus, feedback responses, artificial and native fluid, F16
- Juxtaglomerular cells, protein kinase C and, renin release inhibition, vasoconstrictors, C563
- K
- Kainic acid, fastigial nucleus brain stem lesions, H231
- Kaliuresis
 effect of atrial natriuretic factor, renal artery clamping and, F520
 plasma renin activity, vasopressin effects on, F460
 renal function, vasopressin release and, R789
- Kallikrein
 intrarenal angiotensinogen mRNA and, RNA-DNA dot-blot hybrids, F374
 renal, effect of amiloride on, F400
 tonin release and, calcium and calmodulin role, submandibular gland, C480
 urinary activity, salt and water excretion and, F1082
- Kallikrein-kinin system, urinary activity, salt and water excretion in, F1082
- Ketamine, ethanol effects, splanchnic circulation, G518
- α -Keto acid dehydrogenase, branched-chain, leucine and isoleucine activation of, skeletal muscle, E599
- α -Ketoglutarate, respiratory acidosis effects, proximal tubule, F1039
- α -Ketoisocaproate, specific activity, plasma and tissue parameters, E615
- Ketone body
 metabolism response, during fasting and exercise, E495
 utilization, starvation and diabetes, E169
- Kidney
 A6 epithelium, active sodium transport, hormone regulation of, C978
 amino acid secretion (snake), R712
 arginine vasopressin, amniotic fluid, fetal recirculation (sheep), E253
 ascorbic acid transport, F627
 atrial natriuretic polypeptide and, localization of binding sites, F210
 atriopeptide localization, F753
 AVP function, pregnancy (sheep), F777
 basolateral membrane
 phorbol ester-stimulated phosphorylation, F1073
 water permeability and fluidity, F633
 blood flow: *see* Blood flow
 brush-border membrane, cAMP-dependent protein kinase transport, phosphorylation of, F659
 catabolism, insulin and glucagon, F144
 cells: *see* Kidney cells
 chloride-depletion alkalosis and, F54
 collecting duct, structure-function relations, F1
 compartmentalization of prostaglandin I₂, F58
 constant perfusion pressure, servo-system for, F744
 cortex: *see* Kidney cortex

SUBJECT INDEX TO VOLUME 250

cytosolic free calcium concentration, cultured renal epithelial cells, F329

denervation

- low-sodium hypertension and, H189
- prostaglandins and, F895
- sodium excretion, dopamine receptor effects, F1033

excretion, parathyroid hormone and calcium loading effects, chick (gull), R41

extrinsic innervation, retrograde tracing study, F189

failure

- acute, glycerol volume depletion, F315
- acute, mitochondrial calcium transport, F357
- blood pressure, hypercalcemia and parathyroid hormone effects, F924
- calcium in pathogenesis of, F579
- chronic, somatostatinlike immunoreactivity and, E428
- cisplatin-induced, mitochondrial alterations in, F991
- endotoxemic acute, awake state, F1098
- postischemic ATP-magnesium chloride, F834

fetal contribution to amniotic fluid osmolality, during maternal hypertonicity (ewe), R235

flow measurements, anesthesia, microspheres, H137

fluid secretion mechanism, trans-epithelial (flounder), R616

function

- atrial natriuretic peptide effects, R789
- captopril inhibition of angiotensin II, F986
- kallikrein and, F1082
- renal thromboxane and, spontaneous hypertension, F489
- vagally mediated regulation, awake state (monkey), H546
- voluntary diving and (seal), R175

glomerulus: see Kidney glomerulus

glutamine metabolism, mitochondrial, during potassium depletion, F667

hemodynamics

- and atrial pressure, chronic intrarenal adenosine infusion, awake state, F32
- calmodulin inhibition and F715
- hydromineral excretion, calcitonin effects (sheep), R980
- hydronephrotic, thromboxane synthetase inhibition, F282
- ¹²⁵I-glicentin, catabolism of, E545
- insulin metabolism, diabetes and, E530
- late distal cell populations, indirect immunoselection of, F386
- LLC-PK₁ cell clones, phenotypically stable subpopulations, C682
- meat meal effects, F613
- mechanism in hypothalamic natriuresis, F322
- medulla: see Kidney medulla
- mesangial cells, platelet-activating factor in, F1123
- mesonephric, sodium and chloride active transport (trout), R227
- metabolism, immunoselection of late distal cells, F386
- micropuncture, capillary reabsorption, benzolamide effects, F169
- nitrogen metabolism, glutamine effects, fasting, E622
- nonfiltering
- ouabain effects, F109

renin secretion, atrial natriuretic peptide effects, F798

norepinephrine synthesis, F975

norepinephrine turnover, diabetes insipidus and, R567

pain, thoracolumbar spinal neurals, renal afferent input to, R435

papilla: see Kidney papilla

parathyroid hormone inhibition, sodium-hydrogen antiporter activity (opossum), F217

perfused

- dopamine and dopamine sulfate handling in, F975
- thromboxane synthetase inhibition, F282

physiology, comparative, organic cation transport (snake), F407

plasma and lymph, renin secretion into, E55

plasma flow

- atrial natriuretic factor and, F520
- changes in reflex renal nerve activity and, F559

prostaglandin-induced vasoconstriction

- cholinergic stimulation, F322
- diltiazem reversal of, F619

renin release inhibition, protein kinase C, vasoconstrictors, C563

renin secretion, nerve stimulation and, mediation by opiate receptors, R973

responses

- chronic vasopressin infusion, H584
- glucocorticoids and, metabolic acidosis, F827

role of thromboxane, spontaneous hypertension, F488

sensory denervation, renovascular hypertension and, H82

serine synthesis, F649

sodium-potassium-ATPase, immunological analysis, C896

sodium reabsorption, effect of renal perfusion pressure on, F425

solute excretion, atrial natriuretic factor effects, F710

spontaneous hypertension, sodium-phosphate cotransport, F470

sulfate transport, DIDS inhibition, F226

taurine transport, ionic requirements of (fish), R984

transport, electrogenic, in renal basolateral membrane vesicles, F419

tubules: see Kidney tubules

vascular hindrance, blood viscosity effects, F40

vascular reactivity, hypertension, H1043

vasopressin escape, pressure diuresis in, F907

volume expansion, nocturnal responses to, R638

Kidney cells

- alkalinization, phorbol ester-induced, F451
- cortical, characterization of monoclonal antibodies, C506
- culture, chloride concentration gradient, prostaglandin role, F525
- hexose transport, density gradients (pig), C199
- injury, calcium role in, F579
- parathyroid hormone inhibition, sodium-hydrogen antiporter activity (opossum), F217
- potassium transfer, cooperation between epithelial cells (hamster), C306

sodium-chloride transport, prostaglandin release, C676

Kidney cortex

- p-aminohippurate accumulation in, dibucaine stimulation in, F785
- endocytotic vesicles, proton pump in, F817
- intrarenal angiotensinogen mRNA, RNA-DNA dot-blot hybrids, F374

Kidney glomerulus

- atrial natriuretic peptide binding site, kidney, F573
- atriopeptide localization, F753
- atriopeptin III effects, cGMP, F27
- blood flow: see Blood flow
- cAMP levels, α -adrenoceptor stimulation and, F103
- cultured mesangial cells and, leukotriene effects, F838
- deep, volume-depleted and normovolemic, filtration by, F86
- function, platelet-activating factor in, F1123
- glomerular filtration rate
- atriopeptin II effects, F1119
- neural dopamine effects, F674
- hemodynamics, meat meal effects, F613
- intrarenal receptors, atrial natriuretic polypeptide, F210
- permeability: see Permeability
- secretin effects, F256
- size, prostaglandins and angiotensin, F348
- thromboxane role, hypertension, F488

Kidney medulla

- collecting duct
- acidification, chronic metabolic acidosis effects, F690
- buffer infusion effects, respiratory acidosis, F115
- conductive properties, F70
- sodium transport, inhibition by atrial natriuretic factor, F963
- inner, ammonia secretion, F497
- intrarenal angiotensinogen mRNA and, RNA-DNA dot-blot hybrids, F374
- thick ascending limb cells, osmolality effects on cation fluxes, F176

Kidney papilla

- cell culture, osmolality, cAMP, and prostaglandin E₂ in, F802
- solute concentration, indomethacin effects, F97

Kidney tubules

- adenine nucleotides, cell ATP produced by, F720
- antidiuretic hormone dependency, nephron heterogeneity and, C907
- artificial and native fluid, tubuloglomerular feedback responses, F16
- cells, prostaglandin synthesis, F790
- clathrin localization, intercalated cells, C605
- collecting
- cells, osmolality, cAMP, and prostaglandin E₂ in, F802
- intrarenal receptors, atrial natriuretic polypeptide, F210
- cortical, glutamine metabolism, during potassium depletion, F667
- cortical collecting
- potassium transport and sodium transport inhibition, F120
- prostaglandin E₂, forskolin, and cholera toxin interactions, F127
- rubidium transport, ADH effects, F1063

Kidney tubules (*continued*)

- distal
 - diuretic drug effects, F1013
 - fluid delivery, tubuloglomerular feedback control of, F1024
 - functional heterogeneity in (snake), F430
 - unidirectional potassium fluxes, F885
- distal convoluted, structure-function relations, F1
- isolated perfused, N⁶-methylnicotinamide transport by (snake), F407
- medullary collecting, sodium transport, atrial natriuretic factor inhibition of, F963
- membranes, lipids, ureteral obstruction effects, F136
- microdissection, insulin and glucagon metabolism sites, F144
- monoclonal antibodies, C506
- nicotinic acid, transport and metabolism, C694
- obstruction
 - glomerular blood flow after, F77
 - glycerol volume depletion, F315
 - osmolality and solute transport in, F246
- perfusion, in vitro, apical membrane ionic permeability, F339
- pH effects, basolateral membrane, F261
- pH measurement, proximal, F203
- proteinuric, cathepsins and, F1055
- proximal
 - amiloride analogues, metabolism inhibition, C744
 - anion transport mechanism, F419
 - antiporter characteristics, F539
 - apical membrane ionic permeability, F339
 - atrioventricular III effects on cGMP, F27
 - basolateral bicarbonate transport, F267
 - bicarbonate and chloride reabsorption, F22
 - calcium effects, parathyroid hormone actions, F942
 - capillary reabsorption, benzamide effects, F169
 - cells, occluding junction, F734
 - chloride transport, bicarbonate absorption effects, F1046
 - direct effect of atrial natriuretic factor, F66
 - fluid transport, ion flux effects, F680
 - intracellular pH, respiratory acidosis effects, F1039
 - mathematical model, F860
 - osmotic diuresis, model, F874
 - physiological properties (flounder), R608
 - pressure, glycerol volume depletion, F315
 - serine synthesis, F649
 - sodium-coupled transport, F953
 - transepithelial magnesium transport, R616
 - transport, atrial natriuretic factor effects, F710
- proximal convoluted, electroneutral sodium chloride transport, F644
- reabsorption
 - angiotensin and, R960
 - vasopressin escape, F907
 - transepithelial voltages (quail), R333
 - volume flow, sodium chloride secretion and (flounder), R753

- water and chloride transport (quail), R341
- Knee menisci, mechanical response, thermomechanical stress, R65

L

- Lacrimal gland, protein secretion, α_1 - β -adrenergic synergism, C704
- Lactacidosis, deep hypoxia effects, ion transfer processes in (trout), R319
- Lactate
 - blood, epinephrine effects, liver and muscle, E641
 - changes, complete brain ischemia, R348
 - isometric contraction and, muscle, C834
 - metabolism, voluntary diving and (seal), R175
 - secretion, exocrine pancreas, G398
 - turnover (tuna), R452
- Lactation: *see also* Fetus; Placenta; Pregnancy
 - energy balance, brown fat thermogenesis and (hamster), R845
- Lactic acidosis: *see* Acidosis
- Lanthanum
 - pretreatment of toad bladder, water flow inhibition by parathyroid hormone, F532
 - prostaglandin synthesis, renal tubular cells, F790
- Laplace's law, left ventricular regional work, H151
- Laryngeal nerve, superior, resetting of respiratory rhythms and, R721
- Latch bridge, cross-bridge inhibition, vanadate, skinned smooth muscle, C325
- Lectins, hepatic extraction, specificity and mechanism, G344
- Leucine
 - activation of α -keto acid dehydrogenase, skeletal muscle, E599
 - aminopeptidase, monoclonal antibodies, renal cortical cells, C506
 - kinetics, meal absorption, E695
 - metabolism, plasma and tissue parameters of, E615
- Leukocytes
 - mononuclear, β -adrenergic receptor effects on redistribution, E583
 - polymorphonuclear
 - prostaglandin release, dexamethasone inhibition of, C970
 - sodium-hydrogen exchange in neutrophils, C283
- Leukotrienes
 - arachidonic acid metabolites, gap junctions, trachea, C495
 - chloride secretion and, airway epithelium, F47
 - glomeruli and cultured mesangial cells and, F838
- Lidocaine, skeletal muscle phosphorylase kinase, cultured isozyme levels, C365
- Ligand, β -adrenergic, receptor-independent sequestration of, alveolar type II cells, C872
- Light-dark cycle, transitions, circadian system and (hamster), R708
- Lipid-depleting factor, metabolic response to, parabiosis, R276
- Lipids
 - absorption, intestinal, G420
 - accumulation, arterial wall, high-altitude effects, R485

- calorie source comparison, sepsis, E312
- cardiac, performance and, diabetes, H1079
- interaction with lysolecithin, gastric mucosal barrier disruption, G275
- metabolism
 - control of food intake by fatty acid oxidation, R1003
 - myocytes, H853
 - peroxidation, adriamycin stimulation of, myocardial function and, H419
 - renal membrane, ureteral obstruction effects, F136
 - transport, intestinal, G497
- Lipogenesis
 - adipose, parabiosis, R276
 - adipose tissue metabolism, genotype dependency, after overfeeding, E480
 - insulin effect, inhibition of hepatic glucose production, E346
- Lipolysis
 - adipose tissue metabolism, genotype dependency, after overfeeding, E480
 - blood flow and glucose uptake, adenosine effects, H1127
 - carbohydrate-induced thermogenesis, skeletal muscle, E226
 - endogenous, metabolism, myocytes, H853
- Lipopolysaccharide, cellular calcium regulation, endotoxin shock, R884
- injection, corticosterone secretin caused by, E470
- Lipopolysaccharide B, fever and, R776
- Lipoprotein lipase
 - adipose tissue metabolism, genotype dependency, after overfeeding, E480
 - dietary sugar effects, with or without hyperinsulinemia, E325
- metabolism
 - adipose tissue, exercise in pregnancy, R837
 - insulin infusion, chronic renal failure, E373
- Lipoproteins
 - high-density, cholesterol generation and (monkey), E265
 - low-density, cholesterol generation and (monkey), E265
 - very-low-density
 - chylomicron transport by enterocytes to lymphatics, G715
 - effects of dietary sugars, E325
- Lithium, cytosolic free calcium concentration and, cultured renal epithelial cells, F329
- Liver
 - adult, epidermal growth factor binding sites, G760
 - alloxan injection effects, glucagon-induced inhibition of feeding, R682
 - basolateral membrane, sodium-hydrogen exchange, G35
 - biliary excretion, hepatic processing of CCK peptides, G344, G350
 - blood volume, catecholamine effects, H992
 - circulation, ethanol-induced increase in, G518
 - endotoxin shock, cellular calcium regulation in, R884
 - enterocytes, postnatal maturation of, G177
 - feeding and, epinephrine-induced anoxia, R313

- function, voluntary diving and (seal), R175
glucagon portal infusion, suppression of feeding and, R676
gluconeogenesis, tolbutamide effects, E82
glucose output, regulation during exercise, R411
glycogen, adrenergic blockade, exercise and, R1060
glycogenolysis, epinephrine effects, exercise and, E641
insulin metabolism, diabetes and, E530
intracellular diffusion gradients, oxygen, adenosine triphosphate, C663
lobule, oxygen uptake, G800
metabolism, pH and ureagenesis, F605
nitrogen metabolism, glutamine effects, fasting, E622
oxidative metabolism, control of food intake, R1003
pyruvate dehydrogenase complex activity, sepsis effects, E634
renin removal, plasma, E551
smooth muscle cells, function measurement, G357
urea, ODC and, female rat, E377
zinc uptake, hepatocytes, E677
- LLC-PK₁ cells**
clones, phenotypically stable subpopulations, C682
renal, occluding junction in, F734
Loading, osmotic, angiotensin II, osmoregulation of, R918
Locomotion, circadian rhythms, propylthiouracil effects (hamster), R151
Luminal membrane, ADH-induced water flow, polycation inhibition, C729
- Lung**
heart and, myocardial responses to isoproterenol, naloxone effects, H749
intravascular macrophages (calf), R728
metabolism, after ozone exposure, E131
receptor-independent sequestration, β -adrenergic ligands, C871
recoil, postnatal development, thyroid hormone effects, R51
temperature, pulmonary extraction of tracer water and, H1017
uptake of exogenous polyamines after unilateral pneumonectomy, E435
- Luteinizing hormone**
endocrine pulse detection, cluster analysis for, E486
photo-induced adjustments, testicular function, R199
production and release, pre- and postpartum (sheep), E282
pulsatile secretion, interval sequence analysis, E338
secretagogue-induced secretion, cAMP augmentation of, E62
secretion, estrogen inhibition, E341
Luteinizing hormone-releasing hormone, self-priming, cAMP and, E62
- Lymph**
flow, Starling's hypothesis, H706
postural changes and, H68
- Lymph flow**
interstitial matrix hydration, intestinal chylomicron transport and, G497
thoracic duct, blood volume expansion effects, pregnancy (sheep), R1095
- Lymphocytes**, activating factor, muramyl dipeptide-induced fever, plasma metal level changes, C572
- Lysolecithin**, gastric mucosal injury by, G275
- Lysophosphatidylcholines**, lysolecithin-lipid interactions, gastric mucosal barrier disruption, G275
- Lysosomes**
effect on biliary excretion, hepatic processing of CCK peptides, G350
excretion, high carbohydrate diet and, E156
insulin processing, cultured hepatocytes, E148
procathepsin D, limited proteolysis, cell-free system, C589
- M**
- Macromolecules**, capillary permeability effects, Starling's hypothesis, H706
- Macrophages**
muramyl dipeptide-induced fever, plasma metal level changes, C572
pulmonary, intravascular (calf), R728
- Magnesium**
dietary effects, bicarbonate and, bone, F302
extracellular ATP effects, isolated hepatocytes, R573
transepithelial transport, proximal tubules (flounder), R616
- Maitotoxin**, pituitary calcium efflux, dopamine effects on, E731
- Maleic acid**, bicarbonate transport after, renal tubular acidosis, F476
- Malic enzyme**, substrate metabolism, jejunal epithelium, C191
- Mammosomatotrope**, estradiol-induced shift, prolactin and growth hormone cells, E103
- Mannitol**
apical membrane ionic permeability and, proximal convoluted tubule, F339
osmolarity effects, medullary thick ascending limb cells, F176
resistance and, fundus and antrum (frog), G639
- Mass**, body, sex differences, E736
- Mast cells**, deficiency, anticoagulant active heparin-like molecules, H879
- Maturation**: see also Development; Growth
cholecystokinin receptors, pancreatic acini, G594
pepsin secretory response and, gastric glands, G200
postnatal, enterocytes, G177
- MDCK cells**
cytoskeleton, cell volume, cAMP effects, C319
epithelial cell cooperation, potassium transfer, C306
functional variability, C214
sodium-chloride transport, prostaglandin release, C676
- Meals**: see Feeding
- Meclofenamate**
oxygen reactivity, arteriolar, H1102
vasopressin release and, awake state, R1028
- α -**Melanocyte-stimulating hormone**, antiserum, central administration of, fever and, R803
- Membrane**
basolateral: see Basolateral membrane
plasma
carotid artery (cow), C65
luminal, sodium-hydrogen exchange, G781
sodium-hydrogen exchange, liver, G35
sodium-potassium-ATPase distribution in parotid gland, C430
potentials: see Potentials
transport
potassium-chloride, resealed red cell ghosts, C578
sites, chloride-cation, Ehrlich cells, C688
vitamin C uptake, monosaccharide transporter, C637
- Membrane vesicles**, apical, inorganic phosphate uptake, G323
- Mercaptoacetate**, fatty acid oxidation and, control of food intake, R1003
- Meromyosin**, heavy, skeletal muscle (frog), R56
- Mesangial cells**
phagocytosis, dexamethasone and hydrogen peroxide production during, F596
platelet-activating factor in, F1123
- Mesangium**, glomerular size and, angiotensin and prostaglandin effects, F348
- Mesenteric artery**
angiotensin II release, β -adrenoceptor-mediated, H144
superior, sodium-hydrogen exchange in, H313
VIP vasodilation, cAMP and, H755
- Metabolic acidosis**: see Acidosis
- Metabolic rate**, changes, short-term exercise, E711
- Metabolic responses**, temperature changes (pangolin), R377
- Metabolic studies**, microcomputer-assisted, voluntary diving (seal), R175
- Metabolites**, flux rates, mammalian (tuna), R452
- Metallothionein**, clonal variation of cadmium response, tumor cell lines, C256
- Metals**, plasma level changes, muramyl dipeptide-induced fever, C572
- Methazolamide**
carbon-dioxide renal secretion and, elasmobranch (dogfish), F288
effect on parotid secretion (sheep), F503
electroneutral bicarbonate secretion, gallbladder, C617
pancreatic acinar secretion and, G140
potassium conductance and pH, retinal pigment epithelium (cow), C124
- Methionine-enkephalin**
contractile dose, calcium ion efflux and, G280
effect on contractile response, gastric muscle cells, G357
vasopressin and, spontaneous hypertension, R1007
- Methylamine**, cellular pH gradients and, use of weak bases for estimation, C418
- Methylene blue**, block of flow-dependent dilation and, femoral artery, H974
- Methyl-D-glycopyranoside**, occluding junctions, LLC-PK₁ cells, F734
- α -**Methylglycoside**, hexose-transporting LLC-PK₁ cells and, density gradients, C199
- Methylglyoxal bis(guanyldrazone)**, pulmonary uptake, after unilateral pneumonectomy, E435
- N³-Methylnicotinamide**, transport, by isolated perfused proximal renal tubules (snake), F407

- 4-Methylpyrazole, ethanol and, splanchnic circulation, G518
- 4-Methylumbelliferone, fluorescence, urinary bladder (turtle), F159
- Methysergide, H₁ action of histamine and, aldosterone and cortisol secretion, adrenal, E523
- Metiamide, H₁ action of histamine and, aldosterone and cortisol secretion, adrenal, E523
- Mezerein, protein kinase C activators, sodium transport inhibition, A6 epithelia, C517
- Michaelis-Menten kinetics, glucose, brain, R127
- Microcalorimetry, renal nerves, proximal reabsorption and, F22
- Microcatheterization
acidification, chronic metabolic acidosis augmentation of, F690
buffer infusion effects, respiratory acidosis, F115
sodium transport, inhibition by atrial natriuretic factor, medullary collecting duct, F963
- Microcirculation: *see also* Blood flow; Circulation
cerebral, ACE activity, hypoxia and hypercapnia effects, H806
cheek pouch (hamster), H291
cutaneous, postocclusive reactive hyperemia, H765
gill, angiotensin extraction (trout), R532
oxygen reactivity, prostaglandins and, H1102
postural changes and, H68
prostaglandin release, dexamethasone effects, microvessel endothelium, C970
response to oxygen, spontaneous hypertension, H761
vagal nerve stimulation, gastric arterioles, G660
- Microelectrodes
oxygen, carotid body, H202
pancreatic tissue oxygen tension, during secretory stimulation, G316
surface pH, intracellular pH regulation, cardiac and skeletal muscle, C748
- Microembolization, coronary blood flow, hyperemic responses, adenosine effects, H509
- Microinfusion, ¹²⁵I-glicentin, renal catabolism of, E545
- Microperfusion, atrial natriuretic factor, proximal tubule, F66
- Micropressure, cheek pouch (hamster), H291
- Micropuncture
bicarbonate transport studied by, in renal tubular acidosis, F476
electrolyte handling, superficial nephron, F590
secretin effect on glomerular dynamics, F256
sodium reabsorption assessed by, renal perfusion pressure effect on, F425
- Microscopy
electron, distal nephron, F1
fluorescent, protein leakage, hypertension and, H284
- Microspheres
blood flow distribution
perfused rat hindlimb, E441
small intestine, G670
vasa vasorum H434
- flow measurements in anesthesia and, H137
glomerular blood flow, after single nephron obstruction, F77
left ventricular hypertrophy, tachycardia with, myocardial flow during, H968
molecular flow marker, H1060
radiolabeled
adrenal medullary and cortical blood flow, hemorrhage and, H954
cerebral blood flow, H305
flow and resistance in portal hypertension, G205
gastrointestinal blood flow, chronic portal hypertension effects, G535
transmural flow reserve, H276
sympathetic effects, cerebral blood flow, H498
- Microtubules
effect on biliary excretion, hepatic processing of CCK peptides, G350
epithelial cell volume and, cAMP effects, cytoskeleton of MDCK cells, C319
- Microvascular hindrance, hemodilution, hemoconcentration and, H908
- Microvascular network, cheek pouch (hamster), H291
- Micturition, postnatal development, R926
- Minipump
osmotic
arterial infusion, hindlimb, E321
driven, insulin infusion, chronic renal failure, E373
- Mitochondria
amiloride analogues, proximal tubule inhibition, C744
calcium and proton buffering and diffusion, *Myxicola axoplasm*, C391
calcium transport, following renal ischemia, F357
cold adaptation and, brown adipocytes, C228
cytosolic free calcium concentration and, cultured renal epithelial cells, F329
function, intracellular calcium and, anoxic cardiac myocytes, C18
intracellular diffusion gradients, oxygen, adenosine triphosphate, C663
intracellular oxygenation and, adult cardiac myocytes, C384
lung, ozone effects on metabolism, E131
oxygen dependence of, cardiac myocytes, C374
- Mitogens, myoblast differentiation, biphasic concentration dependency, C771
- Mitral orifice, occlusion, left ventricular relaxation and, H620
- Models
analytical, ventricular efficiency, R1021
fur, critical radius of endotherms, R699
gluconeogenesis estimation, labeled carbon, E296
glucose transport and metabolism, brain, R127
growth factor-tumor promoter dynamics, R1123
hypertension, atrial natriuretic factor responses to, H871
insulin sensitivity, glucose clearance and, E591
leucine kinetics, during meal absorption, E695
mathematical
osmotic diuresis, proximal tubule, F874
proximal tubules, F860
- network thermodynamic, hormone regulation of sodium transport, A6 epithelia, C978
neurotensin release, ileal mucosal cells, G374
portal hypertension, flow and resistance in, G205
sodium transport, bioenergetics of, epithelial (frog), F1107
two-cytochrome, oxygen metabolism, carotid body, H202
- Monensin
cellular sodium compartments, smooth muscle cells (toad), C76
effect on parotid secretion (sheep), F503
iodide uptake, cultured thyroid cells (turtle), E464
sodium-hydrogen and bicarbonate exchange, gastric glands, G524
- Monoamine oxidase, pentagastrin effects, gastrointestinal effects, G546
- Monoclonal antibody
IgM, osmotic blood-brain barrier opening to, R875
indirect immunoselection of late distal cell population, kidney cortex, F386
- Monolayer cultures, alveolar type II, ion transport stimulation, C222
- Mononuclear phagocyte system, particle removal from blood (calf), R728
- Monosaccharide, transporter, vitamin C uptake, placental membrane vesicles, C637
- Motility
biliary, responses to cholecystokinin, G665
colonic
myoelectric correlates of, G213
soft feces formation, control by prostaglandin, G302
duodenal, pancreatic secretion relations, fasting and feeding, G570
gastric
cold restraint-induced lesion formation, G191
gastrin-releasing decapeptide effects, antral muscle, G581
modulation by nucleus tractus solitarius, R996
gastrointestinal, upper postprandial, vagal control of, G501
intestinal
acquired resistance, G266
ectopic activity, somatostatin-induced, G149
enteric neural circuits and, G653
indomethacin and prostaglandin E₂ effects, G135
substance P effects, G21
- Motor activity
intestinal, fasting, duodenal bile acid delivery effects, G836
spontaneous, circulatory changes during, arterial baroreflexes in, H426
- Motor complex
migrating
pancreatic secretion and, fasting and feeding, G570
vagal control, G501
- Motor units, muscles, grafted, C828
- α -MSH: *see* α -Melanocyte-stimulating hormone
- Mucosa: *see* specific type and site
- Mucus, intestinal, chloride secretion and, colon, G185

SUBJECT INDEX TO VOLUME 250

- Multimeric enzymes, radiation inactivation, C103
- Muramyl dipeptides, fever induction, plasma metal level changes, C572
- Muscarinic antagonists, peristaltic contractions and, esophageal smooth muscle (opossum), G50
- Muscarinic inhibition, substance P, small intestine, G21
- Muscle
 - ammonia metabolism, isometric contraction, C834
 - biphasic concentration dependency, myoblast differentiation, somatomedins, C771
 - contraction
 - blood flow distribution, rat hindlimb, E441
 - creatine-depleted, phosphagen and intracellular pH changes, C264
 - development, soleus grafts, structure and function, C474
 - free amino acids, λ -carrageenan injury and, E24
 - gastric
 - function measurement in, G357
 - source of activator calcium in, G280
 - glucose uptake, insulin-mediated, rate-limiting steps for, E100
 - glycogenolysis, epinephrine effects, exercise and, E641
 - grafted, motor units in, C828
 - insulin metabolism, diabetes and, E530
 - intestinal, electrical coupling, atrophy and hypertrophy, C292
 - layers, boundary cells between, electrical slow waves and, G287
 - mechanics and physiology, elastic energy storage (frog), R56
 - papillary, surface pH, intracellular pH regulation, C748
 - phosphofructokinase control in, R71
 - proteolysis, prostaglandin E_2 and, R207
 - striated, myosin phosphorylation, C657
 - transplantation, structure and function of soleus muscle, C474
 - heart
 - basal metabolism, factors regulating, H998
 - coupled sodium-calcium transport, cultured heart cells (chick), C442
 - depolarization, calcium increase, C651
 - diabetic cardiomyopathy, reversal with insulin, H108
 - fiber orientation, myocyte hypertrophy, H378
 - hypoxic isometric, improvement in relaxation by nifedipine, H208
 - inositol trisphosphate, calcium release, and skeletal muscle, C807
 - ischemic, ATP depletion, oligomycin and acidosis effects, H503
 - isometric force in aorta, forskolin and cyclic nucleotide effects, C468
 - relaxation, isotropy relations and, H1008
 - surface pH, intracellular pH regulation, C748
 - ventricular cells, electrophysiology of, H731
 - ventricular strips, submaximal sodium-lack contractures (frog), C155
 - skeletal
 - active hyperemia, dipyrindamole potentiation of, H62
 - anal, force measurements in, G260
 - arterial pressure reduction, microvascular pressure during, H838
 - biopsy, energy metabolism of, C813
 - branched-chain α -keto acid dehydrogenase, leucine and isoleucine activation of, E599
 - calcium effects, protein turnover, E702
 - α -carrageenan injury, amino acid metabolism after, E24
 - dystrophic, cold acclimation and (hamster), R167
 - elastic energy storage (frog), R56
 - endothelial cells, adenosine uptake by, H482
 - hypercapnia and hypocapnia effects (geese), R499
 - inositol trisphosphate, calcium release, and cardiac muscle, C807
 - insulin binding, E198
 - after exercise, E186
 - training effects, E570
 - mechanical, cobalt, calcium and verapamil effects, C40
 - metabolic response to ischemia, H213
 - nitrogen metabolism, glutamine effects, fasting, E622
 - phosphorylase kinase
 - control of cultured isozyme levels, C365
 - isozymes of, C84
 - pyruvate dehydrogenase complex activity, sepsis effects, E634
 - surface pH, intracellular pH regulation, C748
 - vasodilation, electrical stimulation of preoptic recess, H221
 - venules, diameter and blood flow, H828
 - smooth
 - antral, gastrin-releasing decapeptide effects, G581
 - arterial, increased calcium sensitivity, α_1 -adrenoceptor-stimulated contraction, C275
 - arterial vascular, transmembrane potential, sodium-potassium pump, C547
 - atrophy, intercellular electrical coupling, C292
 - cell line, calcium currents in, H699
 - contraction
 - α_1 -adrenoceptor stimulated, caudal artery, C275
 - source of activator calcium, G280
 - coronary arterial, eicosonoid metabolism and β -adrenergic mechanisms, C406
 - esophageal, peristaltic contractions, muscarinic antagonist effects (opossum), G50
 - function measurement in, G357
 - hypertrophy, intercellular electrical coupling, C292
 - ileal, propulsive behavior, G653
 - impedance, intercellular electrical coupling, atrophy and hypertrophy, C292
 - intestinal
 - after jejunoileal bypass, G70
 - motility, acquired resistance, G266
 - slow waves in, G28
 - myosin, heavy chains in, C861
 - prostaglandin-induced vasoconstriction diltiazem reversal of, F619
 - vascular, localization of natriuretic peptide binding sites, kidney, F573
 - role of boundary cells, electrical slow waves, G287
 - sarcomeric reticulum, calcium release, C171
 - tracheal
 - contractile behavior, C146
 - cross-bridge inhibition, vanadate myosin phosphorylation, calcium dependence, C597
 - vascular
 - ATPase function, hypertension, C535
 - contractile response to ouabain and sodium, hypertension and, H612
 - oxygen free radicals and, H815
 - plasma membrane (cow), C65
 - potential cAMP compartmentation, eicosonoid metabolism and β -adrenergic mechanisms, C406
 - response to oxygen, spontaneous hypertension, H761
 - responsiveness, hibernator, season and temperature effects (woodchuck), R77
 - sodium-hydrogen exchange in, H313
 - sodium-potassium-ATPase, C536
 - sodium-potassium transport, hypertension, C540
 - venous vascular, transmembrane potential, sodium-potassium pump, C547
 - Muscle cells
 - cardiac, myosin phosphorylation, C657
 - cultured isozyme levels, phosphorylase kinase, C365
 - glucose transport, cytoplasmic alkalization, insulin-induced, C720
 - skeletal, myosin phosphorylation, C657
 - smooth
 - calcium transients, quin 2, C779
 - cellular sodium compartments in (toad), C76
 - multiple neuropeptide effects, C792
 - myometrial, electrophysiological characterization of, C47
 - vascular, potassium-return relaxation, hypertension, C557
 - vascular smooth
 - angiotensin-receptor signaling in, F759
 - DNA synthesis, prostaglandin E_1 effects, C584
 - ouabain binding, spontaneous hypertension, C948
 - sodium-potassium regulation, spontaneous hypertension, C939
 - VIP vasodilation and cAMP, H755
 - Muscle fibers
 - skeletal, insulin binding after exercise, E186
 - skinned, calcium release rate in, measured with arsenazo III, C245
 - type
 - bilateral stenosis, training effects, H1050
 - blood flow distribution, rat hindlimb, E441
 - isometric contractions, oxygen cost, E449
 - Muscular dystrophy, cold-acclimation effects (hamster), R167
 - Muscularis mucosae, colonic, pharmacological characterization (opossum), G98
 - Musculus tibialis anterior, phosphorylase kinase isozymes, electrical stimulation and, C84
 - Myenteric plexus, inhibitory peptidergic neurons, functional differences, G60
 - Myoblasts, differentiation, biphasic concentration dependency, somatomedins, C771

- Myocardium**
 adenylate cyclase, β -adrenergic stimulation of, shock and, R358
 contractility, aortic stenosis effects, awake state, H159
 flow: see Flow
 function
 α_1 -adrenergic constriction effects, running and, H1117
 adriamycin direct effects, H419
 oxygen free radicals and, H595
 glucose uptake, multiple tracer dilution estimates, H29
 ischemic, pyruvate effects, H114
 metabolism, diabetes, H1079
 molecular flow marker in, H1060
 myocyte, morphology, embryo (chick), H407
 phosphofructokinase purified from, pH-induced hysteric properties of, R505
 procathepsin D, limited proteolysis, cell-free system, C589
 stunned, superoxide dismutase and catalase actions in, H372
 ventricular, ryanodine and caffeine comparison, H786
 viscoelasticity, measurement of, H672
Myocytes: see also Cardiac cells; Heart cells
 adult cardiac, intracellular oxygenation analysis, C384
 anoxic, mitochondrial function and intracellular calcium, C18
 carbohydrate and fatty acid metabolism, adult, H853
 depolarized, calcium increase, C651
 dihydroalprenolol, β -adrenergic receptor affinity for, H490
 forskolin effects, antagonism by adenosine (guinea pig), H769
 hypertrophy, regional differences, heart, H378
 mitochondrial function, oxygen dependence, C374
 stiffness, detergent and high salt solutions, H932
 ultrastructure and function, calcium depletion and repletion effects, H265
Myoelectric complex
 activity, intestinal immunity and, G266
 contractile activity and, colon, G213
 gastric, electrogastrographic characteristics, G165
 migrating
 during fasting and after feeding, gallbladder (opossum), G227
 somatostatin and, intestine, G149
Myogenic tone
 ear resistance arteries, H87
 stretch-dependent, denervation effects, resistance artery, ear, H889
Myoglobin
 intracellular oxygenation and, adult cardiac myocytes, C384
 oxygen dependence, mitochondrial function, myocytes, C374
Myoinositol, angiotensin effects, vascular smooth muscle cells, F759
Myometrium, pregnancy, electrophysiological characterization of cells, C47
Myosin
 active site, cross-bridge inhibition, vana-date, C325
 heavy chains, cardiac, regulation of, H333
 isoenzymes, muscle, heavy chains in, C861
 light chain kinase, phosphorylation, striated muscles, C657
 phosphorylation, calcium-dependent, airway muscle tone regulation, C597
Myotubes
 cultured isozyme levels, phosphorylase kinase, C365
 skeletal, glucose oxidation, cyclic adenosine monophosphate, C713
- N**
- NAD** biosynthesis, renal transport and metabolism, nicotinic acid, C694
Naloxone
 antagonism of, renin release and, R633
 calcitonin gene-related peptides, gastric acid secretion and, awake state, G742
 myocardial responses to isoproterenol and, heart-lung, H749
 opiate-receptor blockade response, during insulin-induced hypoglycemia, E236
Natriuresis
 atrial, effect in proximal tubules, F66
 atrial polypeptide and, intrarenal receptors, F210
 atrial stretch, atrial peptides and, R946
 cholinergic stimulation of the hypothalamus and, role of renal nerves, F322
 diltiazem-induced, renal kinin-prostaglandin role, F197
 effect of atrial natriuretic factor, renal artery clamping and, F520
 furosemide, prostaglandin effects, F980
 meat meal effects, renal, F613
 plasma renin activity, vasopressin effects on, F460
 renal function, vasopressin release and, R789
Natriuretic factor
 atrial
 atrioheptin II effects, F1119
 awake state, R221
 cirrhosis with ascites, F749
 direct effect, proximal tubule, F66
 hemodynamic responses to, hypertension, models, H871
 pregnancy and, R589
 renal hemodynamic and natriuretic effects, F520
 sodium excretion and, R946
 sodium transport and, medullary collecting duct, F963
 solute excretion and, renal, F710
Natriuretic hormones, cirrhosis, ascites and, F749
Natriuretic peptide
 atrial
 binding sites, kidney, F573
 intrarenal receptors, F210
 mosquito, R328
 renal function and vasopressin release and, R789
 renin secretion and, kidney, F798
Neomycin B, sarcoplasmic reticulum potassium channel and, aminoglycoside blockade, C361
Neonate
 acidosis effects, bone surface elements, F1090
 adrenal diurnal rhythm, E87
 bronchiolar epithelium development, R783
 endotherm, critical radius of, R699
 gastric load, control of ingestion and, R807
 inotropy, relaxation and, myocardium, H1008
 ion transport, distal colon, G754
 skeletal development, vitamin D effects, E725
Nephrectomy
 bilateral, chloride-depletion alkalosis and, F54
 potassium disposal, calcium blockers and, F659
Nephron
 distal
 nucleotides in, nephrogenic diabetes insipidus, F151
 structure-function relations, F1
 heterogeneity
 antidiuretic hormone dependency and, thick limbs, C907
 filtration by superficial and deep glomeruli, F86
 renal perfusion pressure and sodium transport, F419
 insulin and glucagon metabolism, F144
 mammalian-type, transepithelial voltages in (quail), R333
 proteinuric, cathepsin effects, F1055
 single, obstruction, glomerular blood flow after, F77
 superficial, electrolyte handling by, F590
Nephropathy
 obstructive, glomerular blood flow and, F77
 thromboxane synthetase inhibition, hydronephrotic kidney function, F282
Nephrotoxicity
 calcium and, F579
 renal failure, cisplatin and, F991
Nerves: see also specific nerve
 discharge, oxygen metabolism, carotid body, model, H202
 Neural cell, spectrin skeleton review, C347
 Neural circuits, enteric, ileal and colonic propulsive behavior, G653
 Neural inhibitory mechanisms, small intestinal motility and, G21
 Neurite, formation, nerve growth factor and, aggressive mice, E386
 Neurohypophyseal hormones, measuring effects, urea permeability, bladder (toad), E31
 Neurohypophysis
 regulation, hyponatremia and, R444
 regulation of secretion, osmotic and volume stimuli in, R267
Neurons
 hypothalamic
 glucose-sensitive, R120
 testosterone, estradiol and temperature effects, R625
 medullospinal sympathoexcitatory, nucleus paragigantocellularis lateralis, R1081
 nucleus tractus solitarius, calcium role in, H226
 sympathoexcitatory, spontaneous hypertension, R910
 thermoresponsive, amine effects, brain stem, R553
 thoracolumbar spinal, renal afferent input to, R435

- Neuropathy, diabetic, experimental hypoxic and, E94
- Neuropeptides
baroreflexes and, nucleus tractus solitarius, R193
inhibitory, functional differences, G60
secretory, ion transport across alveolar monolayers, C222
single smooth muscle cell effects, C792
- Neurotensin
inhibition of small intestinal motility, G21
prolactin release, arachidonate metabolism role, E288
release
ileal mucosal cells, G374
regulation of, enteric primary cells, G385
- Neurotransmitters
autonomic, atrioventricular valve leaflets, H397
calcitonin gene-related peptide, right atrium (guinea pig), H693
modulation of VIP release, cerebral cortex, R104
noradrenergic, mesenteric arteries, H144
- Neurotransmitter enzymes, pentagastrin effects, gastrointestinal tract, G546
- Neutron activation, analysis, body composition determination, E179
- Newborn: *see* Neonate
- Nicotine, acetaldehyde treatment, pancreatic structure and function, G598
- Nicotinic acid, renal transport, metabolism, C694
- Nifedipine
improvement in relaxation, hypoxic isometric heart muscle, H208
potassium disposal and, extrarenal, F650
- Nisoldipine, interaction, pituitary cells, C95
- Nitrogen
excretion, urea formation and, F605
metabolism
fasting, glutamine role in, E622
splanchnic and leg tissues compared, E407
total-body, neutron activation and chemical analysis determination, E179
- Nitrogen-15, alanine metabolism and, E39
- Nitroprusside
isovolemic hypotension, fetus (ewe), E564
mechanical effects, carotid sinus, R1074
- Noradrenaline: *see* Norepinephrine
- 19-Nordeoxycorticosterone, adrenal enucleation and, E1
- Norepinephrine
action, coronary arteries, H718
calcium release and, smooth muscle, C171
carbohydrate-induced thermogenesis, skeletal muscle, E226
chronic infusion, metabolic effects of, E518
circulating, hepatic blood volume and, H992
cold adaptation and, brown adipocytes, C228
content, renal, H189
dose-response relations, diabetic cardiomyopathy, H108
hemorrhage-evoked, potentiation of release, blood loss and, E18
³H-labeled, metabolism (trout), R519, R526
- naloxone effect, insulin-induced hypoglycemia, E236
- α_2 -noradrenergic feeding rhythm and, paraventricular nucleus, R83
- optimum power output, left ventricle, H961
- oxygen delivery and, heart (pig), H173
- prostaglandin release induced by, vasoactive substance effects, glomerular, F811
- renal overflow, changes in reflex renal nerve activity and, F559
- renin release inhibition, protein kinase C, C563
- serine protease release, calcium and calmodulin role, submandibular gland, C480
- sympathoadrenal release, hemorrhage rate effects, E69
- thermogenic response, brown adipose tissue, obese mice, E274
- thermoreponsive neurons and, brain stem, R553
- turnover
adrenalectomy and cafeteria feeding effects, E362
cardiac and splenic, sepsis, R892
diabetes and, kidney, R567
diet and photoperiod effects, brown fat (hamster), R383
diet effects, brown fat (hamster), R389
- uptake
angiotensin II stimulation, hypothalamus-brain stem cultures, C236
arterial wall, high altitude and, R485
utilization, brown fat denervation and, R1108
vascular smooth muscle response, hibernation (woodchuck), R77
vasoconstriction, relaxation time of, 5-hydroxytryptamine effects, H121
- Norepinephrine sulfate, urinary handling of, F975
- Normocapnia, cerebral blood flow during, sympathetic effects on, H498
- Normoglycemia, glucose metabolism, brain, R127
- 5'-Nucleotidase, plasma membrane, carotid artery (cow), C65
- Nucleotides, cyclic
atriopectin effects, kidney, F27
calcium antagonist effects, ileum, G691
forskolin effects and, isometric force in aorta, C460
nephrogenic diabetes insipidus, distal nephron, F151
- Nucleus paragigantocellularis lateralis, lumbar sympathetic discharge and, R1081
- Nucleus tractus solitarius
afferent interactions, dorsal medulla, R580
baroreflexes at, angiotensin II effects, R193
calcium in, hypotension and bradycardia, H226
gastric and arterial pressure modulation, R996
- Nutrients, oxidation, enteral vs. parenteral nutrition, E47
- Nutrition: *see also* Feeding
glucose tolerance, synergistic improvement of, E607
- Nystatin, sodium transport inhibition, protein kinase C activators, A6 epithelia, C517
- O**
- Obesity
adipose tissue volume, sex differences, E736
carbohydrate-induced thermogenesis, skeletal muscle, E226
development of, adrenalectomy effects, R595
- dietary
brown fat and (hamster), R389
brown fat denervation and, R1108
extra-abdominal pressure, gastric emptying rate in, R549
hypothalamic, ventromedial lesions, insulin action after, E662
lipid-depleting factor and, R276
- Oleate, cholecystokinin release and, control of pancreatic secretion, G391
- Oligomycin, ATP depletion and, ischemic heart muscle, H503
- Omeprazole
chloride transport of gastric fundus and (frog), G118
inhibition of potassium transport, gastric mucosa, G455
potassium selectivity and, gastric luminal membrane (frog), G765
resistance and, fundus and antrum (frog), G639
thiocyanate and, resistance and potential of fundus (frog), G511
- Oophorectomy, bone loss induced by, calcium effects, E35
- Opiates
endogenous, antagonism of, renin release and, R633
myocardial responses to isoproterenol and, heart-lung, H749
receptors: *see* Receptors
- Opioid agonists, heart rate and blood pressure with, H796
- Opioid peptides: *see* Peptides
- Opioids
cardiovascular response to, H796
endogenous, antagonism of, renin release and, R633
- Organs, circumventricular, ketone body utilization, starvation and diabetes, E169
- Ornithine decarboxylase
postnatal maturation and, enterocytes, G177
refeeding effects, enterocytes, G709
urea concentration and, female rat liver, E377
- Ornithine transcarbamylase, deficiency, postnatal maturation and, enterocytes, G177
- Orthostasis, fluid and protein shifts, H68
- Oscillation
forced, measuring viscoelastic properties, H672
glucose and insulin disposal and, E576
- Oscillators, biological, respiratory rhythms, R721
- Osmolality, vasopressin secretion and, effect of ovarian sex steroids, E352
- Osmoregulation
angiotensin II, central and systemic, R918
lower intestinal modification, ureteral urine (sparrow), R89
neurohypophyseal secretion and, R267
plasma vasopressin and oxytocin, after sustained hyponatremia, R444

P

- Osmoregulation (*continued*)
 sodium-chloride transport, urinary bladder (trout), R227
 vasopressin, sodium depletion and angiotensin II effects, R287
 vasopressin secretion and, effect of ovarian steroids, E352
 water and electrolyte, shell size and (turtle), R1133
- Ouabain
 aortic contractile response and, hypertension, H612
 autoregulation, renal blood flow, F109
 binding
 sodium-potassium-ATPase and, heart cells, C32
 spontaneous hypertension, vascular smooth muscle cells, C948
 bumetanide, sodium-potassium-chloride cotransporter, LLC-PK₁/Cl₄ cells, C799
 cytosolic free calcium concentration and, cultured renal epithelial cells, F329
 effect on oxygen consumption, proximal tubules (rabbit), F497
 effect on parotid secretion (sheep), F503
 electrical activity and, placenta (pig), R474
 electrolyte transport, retinal pigment epithelium, F781
 electroneutral bicarbonate secretion, gallbladder, C617
 epithelial cell cooperation, potassium transfer, C306
 functional variability of MDCK cells, C214
 iodide uptake, cultured thyroid cells (turtle), E464
 oxygen delivery and, heart (pig), H173
 pacemaker rhythm and, sinus node, H567
 potassium phosphatase sensitivity, sodium-potassium-ATPase, vascular smooth muscle, C536
 potassium transport, sodium transport inhibition and, cortical collecting tubule, F120
 prolonged response to, hypertrophied heart, H923
 sensitivity, cellular sodium compartments, smooth muscle cells (toad), C76
 serotonin uptake, pulmonary artery endothelium, C761
 sodium-chloride transport, prostaglandin release, C676
 tritiated binding, dissociation and, vascular smooth muscle, C536
- Ovarian hormones, energy balance and thermogenesis in, brown fat, R245
- Overfeeding, adipose tissue metabolism after, genotype dependency of, E480
- Oxidant, exogenously generated species, myocardial function and, H595
- Oxidation
 fatty acid, regulation of, co-enzyme A and, heart, H351
 glucose, cyclic adenosine monophosphate, myotubes, C713
 leucine kinetics
 during meal absorption, E695
 feeding and starvation, E615
 metabolism, amiloride analogues, proximal tubule inhibition, C744
- Oxygen
 affinity, blood, regulation of (chicken, R260
 arteriolar response to, spontaneous hypertension, H761
 consumption
 arterial, ventricular efficiency, model, R1021
 basal, heart, H998
 isometric contractions, rat skeletal muscle, E449
 muscle contractions, perfused rat hindlimb, E441
 myocardial, adenosine effects, H579
 ouabain and, proximal tubules (rabbit), F497
 pancreatic tissue, during secretory stimulation, G316
 prostaglandin interactions and, gastric glands, G607
 rate, body temperature and (pangolin), R377
 reductions in blood flow, umbilical, fetal (sheep), H1037
 salivary flow rate and, ouabain effect (sheep), F503
 content, blood, uteroplacental (ewe), R1099
 delivery, sinoaortic denervation, awake state (sheep), R868
 dependence
 mitochondrial function in myocytes, C374
 muscularis mucosae, colonic (opossum), G98
 equilibrium curve shape, whole blood (sheep), R298
 free radicals
 endothelium-derived relaxing factor and, H822
 ischemia, skeletal muscle response to, H213
 myocardial function and, H595
 stunned myocardium and, H372
 vascular smooth muscle and, H815
 intracellular analysis, adult cardiac myocytes, C384
 metabolism, carotid body, model, H202
 pressure, blood flow through vasa vasorum, H434
 reactivity, arteriolar, prostaglandin effects, H1102
 stress protein systems, mammalian cells, C1
 supply, adenosine triphosphate production, intracellular diffusion, C663
 supply-to-demand ratio, adenosine formation and, heart (pig), H173
 tension, pancreatic tissue, during secretory stimulation, G316
 uptake
 liver lobule, G800
 midgestation (lamb), E538
 uteroplacental (ewe), R1099
 utilization, intracellular diffusion gradients, adenosine triphosphate, C663
- Oxygen-18, energy expenditure, doubly labeled water, R823
- Oxygenation
 intestinal, thromboxane synthesis and, G64
 pancreatic tissue, during secretory stimulation, G316
- Oxytocin
 neurohypophyseal secretion and, R267
 osmoregulation of, after sustained hyponatremia, R444
- Ozone, continuous exposure, lung metabolism after, E131
- Pacemaker
 electronic interactions, heart cells (chick), H453
 location, cardiac nerve effects, H630
 rhythm, digitalis intoxication effects, sinus node, H567
 Pacemaker cells, cultured, sinoatrial node, H325
- Pancreas
 caerulein effects, G440
 cholinergic dependence to cholecystokinin, G665
 endocrine, cholecystokinin analogues and, G405
 enterokinase modulation, small intestine, G103
 exocrine
 cholecystokinin analogues and, G405
 cholecystokinin receptor maturation, G594
 pyruvate and lactate transport in, G398
 response to amino acids and fats, CCK effects, G553
 secretagogues, somatostatin release and, G15
 secretions, calcitonin inhibition, G127
 glucagon action, hypothalamus, R120
 involution, raw soya flour feeding and, cell death, G9
 proglumide analogue/cholecystokinin receptor antagonist, G856
 secretion
 cholecystokinin release and, G391
 duodenal motility and, fasting and feeding, G570
 structure and function, acetaldehyde treatment effects, G598
 zymogen granules, electrolyte permeabilities of, G489
- Pancreatic acinar cells
 caerulein effects, monolayer culture, G440
 proglumide analogue/cholecystokinin receptor antagonist, G856
- Pancreatic acini
 cholecystokinin analogue effects, G405
 cholecystokinin receptors, maturation of, G594
 enzyme secretion, calcium, phorbol esters, and cAMP stimulation of, G698
 secretion, anions and, G140
 structure and function, acetaldehyde treatment effects, G598
- Pancreatic cells
 β -
 insulin response to short-term hyperglycemia, E655
 in vitro exhaustion, E502
 potassium channel selectivity in, C90
 Pancreatic enzyme, secretion, cholecystokinin effects, G252
- Pancreatic islets
 exhaustion, insulin secretion, E502
 insulin release, secretin effects, E107
 potassium channel selectivity in, C90
- Pantothenate, absorption, intestinal (rat, chick), G155
- Pantothenic acid
 absorption, intestine (rat, chick), G155
 transport, central nervous system, R292
- Papain, procathepsin D, limited proteolysis, cell-free system, C589
- Papillary muscle: *see* Muscle, heart

SUBJECT INDEX TO VOLUME 250

- Parabiosis, lipid-depleting factor in, metabolic response to, R276
- Parasitism, acquired resistance, gut motility in, G266
- Parasympathetic nerve, noncholinergic dilatation, gastric arterioles, G660
- Parathyroidectomy
hypercalcemia and, blood pressure, renal failure, F924
renal excretion and, chick (gull), R41
- Parathyroid hormone
actions, calcium effects, proximal tubules, F942
 α -adrenoceptor stimulation and, glomeruli, F103
calcium transport, isolated bladder (toad), F532
renal excretion and, chick (gull), R41
secretion, glutathione oxidation reduction and, E475
sodium-hydrogen antiporter inhibition, cultured renal cell line (opossum), F217
- Paraventricular nucleus, α_2 -noradrenergic feeding rhythm, corticosterone relations, R83
- Parenteral nutrition: *see* Feeding
- Parietal cells, activity, histamine release and, prostaglandin interaction, gastric glands, G607
- Parotid gland
salivary secretion, ion transport in, F503
sodium-potassium-ATPase distribution in, C430
- Patch-clamp technique, ion channels studied by, renal tissues, F379
- Pentagastrin
ectopic activity fronts, somatostatin induction of, G149
histamine release and, prostaglandin interactions, gastric glands, G607
mucosal blood flow and, G575
neurotransmitter enzyme activities and, gastrointestinal, G546
stimulated gastric acid secretion, blood flow limitation and, G794
- Pepsin
secretion, effects of tachykinins (codfish), G309
secretory response, ontogeny of, gastric glands, G200
- Pepsinogen
annual fluctuation, esophageal peptic glands (frog), G484
secretion, stimulants of, esophageal mucosa (frog), G361
- Peptide hormone
effect on potassium efflux, adrenal glomerulosa cells, E125
prostaglandin synthesis response to, renal tubular cells, F790
- Peptides: *see also* Polypeptides
atrial natriuretic
atrial stretch and, R946
kidney function and vasopressin release and, R789
cholecystokinin, hepatic processing, G344, G350
muscularis mucosa, colonic (opossum), G98
natriuretic factors (mosquito), R328
neurophysiologic, isovolemic hypotension, fetus (ewe), E564
norepinephrine uptake and, hypothalamus-brain stem cultures, C236
opioid, ion transport and, ileal, G92
- phorbol ester effects, cultured cells, intestine, G686
- synthetic
atrial, calcium release and, smooth muscle, C171
insulin release and, pancreatic islets, E107
vasoactive intestinal
cAMP and, H755
receptor antagonist, G553
single smooth muscle cell effects, C792
- Perchlorate, iodide uptake, cultured thyroid cells (turtle), E464
- Perfusion, long-term, in vitro study of insulin secretion, E502
- Peripheral nerves, hypoxic, experimental, E94
- Permeability
capillary
macromolecules and, Starling's hypothesis, H706
terminology for mass transport, H539
cellular sodium compartments, smooth muscle cells (toad), C76
cerebrovascular, IgM monoclonal antibody, R875
electrolytes, pancreatic zymogen granules, G489
gastric mucosa, luminal hydrogen and bile salt, G617
glomerular
albumin effects, F901
atrioventricular II effects, F1119
intestinal, calcium effects, G248
membrane, alterations, calcium effects, heart mitochondria, H741
passive, to calcium, erythrocytes, C26
pore size, arterial endothelium, H16
potassium, external calcium and, erythrocytes, C55
potassium fluxes, chloride and barium effects, distal tubules, F885
- sodium
basolateral pump and, aldosterone stimulation, F273
deficiency, potassium secretion and, apical membrane, F235
transport, hormone regulation of, A6
epithelia, C978
urea, neurohypophyseal hormones and, bladder (toad), E31
- water
antidiuretic hormone-treated bladder (toad), F845
bladder downregulation of vasopressin receptors (toad), C453
fluidity and, renal basolateral membranes, F633
osmotic, diluting segment in kidney (quail), R341
prostaglandin inhibition of, cortical collecting tubule, F127
proximal tubules, model, F860
water and nonelectrolyte, brain synaptosomes, R306
- Pertussis toxin, α -adrenergic-stimulated respiration, brown adipocytes, C738
- Peyer's patches, antigen exposure, jejunal, G427
- pH
acidification and, inner medullary collecting duct, F690
butyric acid transport and, small intestine, G469
cellular, membrane potentials and, use of weak bases for estimation, C418
changes, complete brain ischemia, R348
- chloride transport and, proximal tubule, F1046
effect on sodium influx, renal proximal tubular cell, F539
electrophysiology and, basolateral bicarbonate transport, proximal tubule, F267
erythrocyte metabolism and (chicken), R260
extracellular, regulation of, sodium requirement for insulin release, C207
glycolysis and, muscle, R71
homeostasis, ureagenesis and, F1128
intracellular
calcium and proton, buffering and diffusion, *Myxicola* axoplasm, C391
cardiac and skeletal muscle, C748
creatine-depleted muscle contraction, phosphorus NMR, C264
cytosolic, measurement in proximal tubule, F203
effects in proximal tubule, F261
fluorescence, urinary bladder (turtle), F159
ionic requirements for regulation, hepatocytes (trout), R24
measurements, atrial mucosa (salamander), G625
parathyroid effects, sodium-hydrogen antiporter activity, F217
phosphofructokinase dissociation and, ischemic heart, R512
respiratory acidosis effects, proximal tubules, F1039
sodium-coupled transport, proximal tubules, F953
systemic acid-base disorders and, G588
muscle, isometric contraction, C834
potassium conductance and, retinal pigment epithelium (cow), C124
regulation, sodium-hydrogen exchange in neutrophils, C283
transmembrane gradient, pancreatic secretion, G398
ureagenesis and, F605
- Pharmacokinetics
renal thromboxane inhibition, hydronephrotic kidneys, F282
terminology for mass transport, H539
- Pharmacotherapy, diarrhea, intestinal ion transport and, G1
- Phase-response relations, protein synthesis, circadian clock, eye (*Aphysia*), R5
- Phenoxymethylamine, stretch-dependent tone, ear resistance arteries, H87
- Phenylephrine, mechanical effects, carotid sinus, R1074
- Phorbol esters
alkalinization induced by, renal cell, F451
fertilization potentials and, inositol triphosphate injection (sea urchin eggs), C340
phosphorylation and, basolateral membrane, kidney, F1073
protein kinase C activators, sodium transport inhibition, A6 epithelia, C517
somatostatin release and, cultured cells, intestine, G686
stimulation, enzyme secretion, pancreatic acini, G698
tumor promoters, models, R1123
- Phosphagen
intracellular pH changes and, creatine-depleted muscle contraction, C264

Phosphagen (*continued*)
intramuscular, response to ischemia, H213

Phosphate
absorption, vitamin D factors in, intestines, G369
carbon-dioxide-independent renal secretion and, elasmobranch (dogfish), F288
content, ischemic left ventricular wall, H255
cross-bridge inhibition, vanadate, skinned smooth muscle, C325
excretion, renal, parathyroid hormone and calcium loading effects, chick (gull), R41
high-energy, alleviation of, heart failure and (hamster), H22

inorganic
ATP effects, isolated hepatocytes, R573
electrogenic transport, basolateral vesicles, F419
ischemic left ventricular wall, H255
renal transports, metabolic acidosis, F827
sodium-dependent transport, G323
reabsorption, proximal tubules, F942
transport, kinetics of, G323

Phosphatidylcholine
cardiac hypertrophy and, H1
lysophospholipid interactions, gastric mucosal barrier disruption, G275
renal membrane, ureteral obstruction effects, F136

Phosphatidylethanolamine
cardiac hypertrophy and, H1
renal membrane, ureteral obstruction effects, F136

Phosphatidylinositol, angiotensin effects, vascular smooth muscle cells, F759

Phosphatidylserine, renal membrane, ureteral obstruction effects, F136

Phosphoenolpyruvate carboxykinase, glucocorticoid induction, endotoxin inhibition, E218

Phosphofructokinase
control, muscle, R71
dissociation
ischemic heart, R512
pH-induced hysteric properties, myocardium, R505
isometric contraction and, muscle, C834

Phospholipase, osmolality, cAMP, and prostaglandin E₂ and, collecting tubule cells, F802

Phospholipids
basolateral membranes, kidney, F1073
interactions, intestinal, G420
metabolism, cardiac hypertrophy, H1
transport, by enterocytes to lymphatics, G715

Phosphorus
dietary, deprivation, intestinal, G369
nuclear magnetic resonance, creatine-depleted muscle, phosphagen and intracellular pH changes, C264

Phosphorylase, potential cAMP compartmentation, eicosonoid metabolism and β -adrenergic mechanisms, C406

Phosphorylase kinase, isozymes of, skeletal muscle, C84

Phosphorylation
cAMP-dependent protein kinase transport, renal brush-border membranes, F659

myosin
calcium-dependent, airway muscle tone regulation, C597
striated muscles, C657
phorbol ester-stimulated, renal basolateral membrane, F1073

Photoperiod
multiple endocrine adjustments and, testicular function, R199
norepinephrine turnover and, brown adipose tissue (hamster), R383

Phrenic nerve, respiratory rhythms, resetting of, R721

Physalaemin, gastric acid and pepsin secretion, tachykinin effect (codfish), G309

Pirenzepine, peristaltic contractions and, esophageal smooth muscle (opossum), G50

Pituitary-adrenal function, CRF infusion, ACTH and cortisol response, fetus (lamb), E422

Pituitary cells
Bay K 8644 interaction with, C95
LH secretion, pre- and postpartum (sheep), E282

Pituitary gland
anterior, luteinizing hormone secretion, cAMP augmentation of, E62
calcium efflux, maitotoxin-stimulated, dopamine inhibition of, E731
corticosterone secretion, caused by bacterial endotoxin, E470
estrogen inhibition of LH and FSH secretion, effects of GnRH antagonist, E341
monolayer culture
GH stimulatory action of TRH and GRF, E512
male, E103
posterior, spontaneous hypertension, R1007
responses, hypoxia and hypercapnia, H7
site of feedback regulation, thyrotropin control, E114

Placenta: *see also* Fetus; Lactation; Pregnancy
clearance, midgestatin (lamb), E538
electrical activity, sodium transfer and (pig), R474
growth, restriction effects on blood flow (ewe), R427
human, diffusion permeability, cyanocobalamin (guinea pig), R459
membrane vesicles, monosaccharide transporter, vitamin C uptake, C637
protein turnover, uterus, E114
radioiodide transfer across (sheep), R112
protein turnover, uterus, E114

Plasma
amino acids: *see* Amino acids
catecholamine clearance (trout), R519
concentrations, human placenta (guinea pig), R459
constituents: *see* specific constituent
flow: *see* Flow
membrane: *see* Membrane
metal level changes, muramyl dipeptide-induced fever, C572
parameters, leucine metabolism, E615
renin: *see* Renin
restitution, hypothalamic lesions and hemorrhage, R18
volume: *see* Volume

Plasminogen, activator, LLC-PK₁ cell clones, phenotypically stable subpopulations, C682

Platelet-activating factor
calcium homeostasis and, vascular endothelial cells, H1086
production of, mesangial cells, F1123

Platelets
function, verapamil and diltiazem effects, H366
surface, proteolysis of, H550

Pneumocytes, β -adrenergic ligands, receptor-independent sequestration of, C871

Polyamines
biosynthesis, refeeding effects, enterocytes, G709
exogenous, pulmonary uptake, after unilateral pneumonectomy, E435

Polymorphonuclear leukocytes: *see* Leukocytes

Polymyxin B, fever and, R776

Polypeptides: *see also* Peptides
atrial natriuretic, intrarenal receptors, F210
pancreatic
duodenal motility relations, fasting and feeding, G570
vagal nerve stimulation, E212
vasoactive intestinal
neurotransmitter modulation of, cerebral cortex, R104
quinidine effects, epithelial cell line, colonic, G806

Pore, radius, arterial endothelium, H16

Portal vein, bile acids, absorption in (pig), G295

Posture, changes, fluid and protein shifts after, H68

Potassium
acidosis effects, bone, F1090
activity, sugar and amino acid effects, intestines (snake), G109
ammonium ion substitution, proximal tubules (rabbit), F497
balance, circadian timing system, R737
body, sex differences, E736
calcium-dependent myosin phosphorylation, airway muscle tone regulation, C597

channel
basolateral, hormone regulation, A6
epithelium, C978
sarcolemmal reticulum, aminoglycoside blockade, C361
selectivity, pancreatic β -cells, C90
chloride-depletion alkalosis, kidney, F54

conductance
calcium-dependent, E125
pH interactions, retinal pigment epithelium (cow), C124
sodium-coupled transport, proximal tubules, F953

deficiency, indomethacin effects on papillary solute concentration, F97

depletion, glutamine metabolism during, renal mitochondria, F667

dietary, transport properties of colon, F483

diurnal excretory cycles, F930

efflux, calcium-induced, erythrocytes, C55

electrolyte handling, superficial nephron, F590

excess, basal metabolism and, heart, H998

excretion, renal response to vasopressin infusion, H584

extracellular accumulation, myocardial ischemia, H982

SUBJECT INDEX TO VOLUME 250

- extracellular ATP effects, isolated hepatocytes, R573
- extrarenal disposal, calcium channel blocker effects, F659
- flux
 - angiotensin II effect, adrenal glomerulosa cells, E125
 - sodium-potassium transport, hypertension, C540
 - unidirectional, renal distal tubule and, F885
- hypertension and, ATPase function, vascular smooth muscle, C535
- membrane permeability, corneal epithelium (bullfrog), F850
- permeability
 - pH effects in the proximal tubule, F261
 - TSH effect, thyroid cell, E164
- relaxation return, ATPase mechanism, hypertension, C557
- renal excretion and, chick (gull), R41
- secretion
 - descending colon, G432
 - sodium deficiency and absorption and, colon, F235
- selectivity, gastric luminal membrane (frog), G765
- sodium retention and, adrenal enucleation, E1
- transfer, epithelial cell cooperation, C306
- transport
 - diuretic drug effects, distal tubules, F1013
 - early distal tubule, kidney (snake), F430
 - inhibition by omeprazole, gastric mucosa, G455
 - ion fluxes and, proximal tubule, F680
 - osmotic diuresis, proximal tubules, model, F874
 - proximal colon, G475
 - sodium transport inhibition and, cortical collecting tubule, F120
 - uptake, low sodium effects, heart cells, C32
 - urinary excretion, effect of amiloride on, F400
- Potassium-chloride, cotransport, resealed red cell ghosts, C578
- Potassium-free solution, aortic contractile response and, hypertension, H612
- Potassium ions
 - channel, chloride secretion, T₈₄ cell monolayers, C486
 - permeability response, gastric mucosa, G617
- Potassium-phosphatase, ouabain-sensitive, sodium-potassium-ATPase, vascular smooth muscle, C536
- Potential difference
 - electrical activity, placenta (pig), R474
 - radioiodide transfer, placenta (sheep), R112
 - sodium chloride transport, proximal convoluted tubules, F644
- Potentials
 - action
 - anti-adrenergic effects of adenosine, myocytes (guinea pig), H769
 - calcium and mechanical activity, skeletal muscle, C40
 - changes during myocardial ischemia, H982
 - pregnancy-myometrial cells, C47
 - ventricular cardiac muscle cells, H731
- basolateral membrane, bicarbonate transport, proximal tubule, F267
- cell membrane, proximal tubules, F953
- dilation, LLC-PK₁ cells, F734
- electrochemical energy gradient, amiloride-sensitive sodium channel, C175
- intracellular
 - medullary collecting duct, F70
 - retinal pigment epithelial cells (cow), C124
 - transepithelial and, apical membrane ionic permeability, F339
- membrane
 - ATPase mechanism, hypertension, C557
 - inositol trisphosphate injection (sea urchin eggs), C340
 - intracellular pH measurement, proximal tubule, F203
 - measurements, antral mucosa (salamander), G625
 - rhythmic coronary arterial contractions, H524
 - transmembrane, sodium-potassium pump, C547
- Potentialiation, postextrastolic, ventricular force-interval relations, H414
- Prazosin
 - binding, protein secretion, lacrimal gland, C704
 - vibration effects, cutaneous artery, H519
- Pregnancy: *see also* Fetus; Lactation; Placenta
 - angiotensin II inhibition in, blood pressure and renal hemodynamics, F308
 - atrial natriuretic factor effects, R589
 - AVP function in (sheep), F777
 - energy balance, brown fat tissue thermogenesis and (hamster), R845
 - exercise, adipose tissue metabolism and, R837
 - maternal hypertonicity, fetal renal contribution to amniotic fluid osmolality (ewe), R235
 - mid-, fetal and placental metabolism (lamb), E538
 - myometrial cells, electrophysiological characterization of, C47
 - osmoregulation and vasopressin secretion during, effect of ovarian steroids, E352
 - protein turnover changes, uterus, E114
 - oxygen uptake, continuous uteroplacental (ewe), R1099
 - thoracic duct lymph flow, blood volume expansion and (sheep), R1095
 - urea concentration and ODC, liver, E377
 - uterine blood flow during, endogenous hormone regulation of (ewe), R365
- Preload, reserve, ventricular function and, awake state, H464
- Pressure: *see also* Blood pressure
 - aortic, cardiac protein degradation and, C932
 - arterial
 - angiotensin and, R960
 - baroreceptor reflex control of, H866
 - bilateral carotid reflex interaction, H96
 - modulation by nucleus tractus solitarius, R996
 - responses to vasopressin infusion, H584
 - atrial, renal hemodynamics and, chronic intrarenal adenosine infusion, awake state, F32
- capillary, arterial pressure reduction and, skeletal muscle, H838
- colloid osmotic, macromolecules and, H706
- constant perfusion, servo-system, kidney, F744
- dependence, coronary diastolic input impedance and capacitance, H330
- dural sinus, brain surgery, H389
- end-systolic, assessment of, heart, H685
- extra-abdominal, food intake and gastric emptying rate in, R549
- gastric, modulation by nucleus tractus solitarius, R996
- hydrostatic, vascular anatomy and, cheek pouch (hamster), H291
- left ventricular, static exercise, α -adrenergic blockade effects, R1
- microvascular, skeletal muscle venules, arterial pressure reduction and, H838
- peak systolic, endotoxin effects, H240
- perfusion, renal, effect on sodium reabsorption, F425
- stop-flow
 - calmodulin inhibition, F715
 - hypertension, F967
- Pressure-diameter relations, end-systolic, during pulsus alternans, heart (pig), H606
- Pressure-length relations, left ventricular function, H151
- Pressure-volume relations
 - end-systolic
 - trajectory, heart, H685
 - ventricular function, H464
 - left ventricular function, H151
 - peak isovolumic, left ventricle, H167
 - pulmonary alveoli, thyroid hormone effects, R51
 - ventricular efficiency, model, R1021
- Prostaglandins, uterine blood flow regulation, pregnancy (ewe), R365
- Progesterone
 - effect on osmoregulation and vasopressin secretion, E352
 - energy balance and thermogenesis with, brown adipose tissue, R245
- Proglumide, pancreatic enzyme secretion and, G252
- Proglumide analogue, cholecystokinin receptor antagonists, G856
- Proinsulin, hyperglycemia and, pancreatic B cells, E655
- Prolactin
 - Bay K 8644 effects, pituitary cells, C95
 - cells, estradiol-induced shift, E103
 - endocrine pulse detection, cluster analysis for, E486
 - ovine, calcium uptake (tilapia), R161
 - photo-induced adjustments, testicular function, R199
 - release
 - dopamine effects, E731
 - role of arachidonate metabolism, E288
- Pronase, digestion, two natriuretic factors (mosquito), R328
- Propranolol, effect on insulin binding, skeletal muscle, E986
- Propulsive behavior, enteric neural circuits and, ileum and colon, G653
- Propylthiouracil, phase delays, circadian rhythms and (hamster), R151
- Prostacyclin, arachidonic acid metabolites, gap junctions, trachea, C495

- Prostaglandin E₁
DNA synthesis, vascular smooth muscle cells, C584
interaction with bradykinin, cardiac sympathetic afferents, R815
- Prostaglandin E₂
 α -adrenergic-stimulated respiration, brown adipocytes, C738
 α -adrenoceptors and cAMP, glomeruli, F103
angiotensin and glomerular size, F348
arachidonic acid metabolism and, gap junction formation, trachea, C495
chloride secretion stimulation, renal epithelial cells (toad), F511
dose-response effects, ileum, G135
forskolin and cholera toxin interactions, cortical collecting tubule, F127
furosemide response and, indomethacin treatment, F980
muscle proteolysis and, burn injury and cycloheximide effects, R207
potassium transport, sodium transport inhibition and, cortical collecting tubule, F120
renal thromboxane inhibition, hydronephrotic kidneys, F282
synthesis, collecting tubule cells, F802
urinary excretion, increased by arginine vasopressin, F1008
- Prostaglandin I₂
compartmentalization, kidney, F58
furosemide response and, indomethacin treatment, F980
- Prostaglandins
 α -adrenergic-stimulated respiration, brown adipocytes, C738
alteration of chloride secretion, tracheal epithelium, F47
chloride concentration gradient mediated by, kidney cell culture, F525
chloride secretion, disulfonic stilbene effects, colon, G44
denervation and, renal, F895
endogenous
control of soft feces formation by, G302
gastric alkaline response and, stomach damage, G842
furosemide response and, indomethacin treatment, F980
gastric mucosal cell turnover and, G830
glomeruli and cultured mesangial cells, F838
histamine interaction, gastric glands, G607
oxygen reactivity and, arteriolar, H1102
parathyroid hormone inhibition, water transport, bladder (toad), F532
protein degradation and, heart, C932
release
dexamethasone effects, coronary microvessel endothelium, C970
glomerular, vasoactive substance effects, F811
sodium-chloride transport, MDCK cells, C676
tight epithelia response, calcium ionophores, C629
renal denervation effects and, renal responses to hypoxemia (lambs), F294
renal kinin, diltiazem-induced natriuresis and, F197
renal thromboxane inhibition, hydronephrotic kidneys, F282
- synthesis
captopril inhibition of angiotensin II, F986
renal tubular cells, F790
synthesis inhibition, jejunal blood flow and, G64
urinary excretion, F58
vasoconstriction, reversal by diltiazem, renal and smooth muscle, F619
vasopressin release and, awake state, R1028
- Prostate, growth, aging effects, R1039
- Protease, serine, calcium and calmodulin release, submandibular gland, C480
- Protein
breakdown, changes during pregnancy, uterus, E114
calmodulin-binding, calmodulin and, testis, C299
catabolism, renal, E545
concentration, thoracic duct lymph flow, pregnancy (sheep), R1095
content, pepsinogen, seasonal variations (frog), G484
dietary
alanine metabolism and, E39
renal response to, F613
excretion, effect of intermittent feeding, F566
folding, sodium-potassium-ATPase, kidney, C896
hydrogen and bile salt permeability, gastric mucosa, G617
leakage, histamine-induced, hypertension, verapamil effects, H284
leucine incorporation into, feeding and starvation, E615
lymph, transport, Starling's hypothesis, H706
membrane, oxidation, resealed red cell ghosts, C578
metabolism
free fatty acids and blood amino acids, E686
splanchnic and leg tissues compared, E407
ureagenesis, acid-base balance, F181
plasma, fluid shifts after hemorrhage, H342
processing, procathepsin D, limited proteolysis, C589
pulmonary surfactant analysis, monoclonal antibodies, C460
secretion, α_1 - β -adrenergic synergism, lacrimal gland, C704
shifts, postural changes and, H68
spectrin-like, brain, C347
stress systems, mammalian cells, C1
synthesis
acetaldehyde treatment, pancreas, G598
calorie source comparison, septic rats, E312
cardiac, glucocorticoid treatment effects, C821
changes during pregnancy, uterus, E114
circadian clock and, eye (*Aplysia*), R5
diabetes and, intestinal mucosa, G788
leucine kinetics during meal absorption, E695
turnover, calcium effects, skeletal muscle, E702
- Protein A-gold, clathrin immunocytochemistry, intercalated cells, C605
- Proteinase, cytoplasmic alkalization, insulin-induced, glucose transport, C720
- Protein kinase
activators, sodium transport inhibition, A6 epithelia, C517
cAMP-dependent, phosphorylation of, renal brush-border membranes, F659
- Protein kinase C
phosphorylation and, kidney, F1073
renin release inhibition, vasoconstrictors, C563
somatostatin release and, cultured cells, intestine, G686
- Protein-ligand complex, mediated dissociation, ileum, G648
- Proteinuria, cathepsin effects, nephron, F1055
- Proteoglycans, knee menisci, response to thermomechanical stress, R65
- Proteolysis
calcium effects, skeletal muscle, E702
leucine kinetics, meal absorption, E695
limited, cardiac procathepsin D, cell-free system, C589
muscle, prostaglandin E₂ and, R207
platelet surface, H550
- Proteolytic enzymes, eccrine sweat, R691
- Proton
conductance, adrenalectomy and cafeteria feeding effects, E362
exchange, colonic brush-border membrane vesicles, G781
inhibition, chloride exchange, C955
Puberty, food restriction effects, sex differences, R370
- Pulmonary alveoli, postnatal development, thyroid hormone effects, R51
- Pulmonary artery
blood flow, vasa vasorum, H434
serotonin uptake
endothelial cells, C761
hypoxia, endothelial cells, C766
- Pulmonary vascular bed, adrenoceptor responses, H1109
- Pulse detection, endocrine investigation, cluster analysis for, E486
- Pulsus alternans, heart, end-systolic pressure-diameter relations during (pig), H606
- Pump
function, ventricular, H961
proton, renal cortical endocytotic vesicles, F817
sodium
aldosterone stimulation, bladder, F273
electrogenic, hypertension and, aorta, H612
rhythmic coronary arterial contractions, H524
sodium-potassium-ATPase and, heart cells, C32
vascular smooth muscle, C536
sodium ion, spontaneous hypertension, C939, C948
sodium-potassium
angiotensin effects, vascular smooth muscle cells, F759
ATPase mechanism, hypertension, C557
bradykinin stimulation of, vascular endothelium, C888
inhibition, cultured heart cells (chick), C442
transmembrane potential, C547

SUBJECT INDEX TO VOLUME 250

Purine nucleotide cycle, ammonia metabolism, muscle, C834
Purkinje fibers, pH regulation, cardiac and skeletal muscle, C744
Puromycin, circadian clock, eye (*Aplysia*), R5
Pylorus, resistance, antroduodenal area, fasting and, G773
Pyridine nucleotides, calcium increase, gastric glands, G814
Pyrilamine, H₁ action of histamine and, aldosterone and cortisol secretion, adrenal, E523
Pyrogen
 endogenous
 fever and, R776
 muramyl dipeptide-induced fever, plasma metal level changes, C572
 sleep and brain temperatures, R96
Pyrophosphate gel, heavy chain heterogeneity, smooth muscle myosin, C861
Pyruvate
 effect of ozone exposure, lung, E131
 ischemic myocardium and, H114
 protein degradation and, heart, C932
 secretion, exocrine pancreas, G398
Pyruvate dehydrogenase complex, activity, sepsis effects, skeletal muscle and liver, E634
Pyruvate kinase, hepatic glucose production, insulin inhibition, E346

Q

Quin 2
 coupled sodium-calcium transport and, cultured heart cells (chick), C442
 cytosolic free calcium concentration and, cultured renal epithelial cells, F329
Quinidine, inhibition, ATP levels, colonic epithelial cells, G806

R

Radiation
 cell proliferation and, hexose transport in LLC-PK₁ epithelia, C314
 electrolyte transport and, ileal, G540
 inactivation, multimeric enzymes, C103
 radio-frequency, exposure to, electrocardiography during, H320
Radioimmunoassay, arginine vasopressin, urinary prostaglandin E₂ excretion and, F1008
Radioiodide, transfer, placenta (sheep), R112
Rauwolfscine, vibration effects, cutaneous artery, H519
Receptors
 activation of adenylate cyclase, vasopressin, C115
 adrenergic, verapamil and diltiazem effects, platelet function, H366
 β -adrenergic
 brown adipocytes, cold adaptation, C228
 cardiac, affinity for dihydroalprenolol, H490
 dobutamine-induced cardiac adaptations, H725
 electrical activity and, placenta (pig), R474
 neurotensin release and, enteric primary cells, G385
 potassium secretion and, colon, G432

redistribution, mononuclear leukocytes, E583
adrenoceptors
 responses, modification of, pulmonary circulation, H1109
 stimulation, peripheral circulation, H1071
 α -adrenoceptors
 cellular cAMP levels and, glomeruli, F103
 sodium excretion, F949
 vibration effects, cutaneous artery, H519
 β -adrenoceptors, epinephrine and renal nerve interaction, renin secretion and, F999
 α -adrenoceptor subtypes, diltiazem actions and, coronary arteries, H718
 α - and β -, synergism, protein secretion, C704
angiotensin, signaling, vascular smooth muscle cells, F759
antidiuretic hormone
 downregulation in bladder (toad), C453
 renin secretion and, awake state, F92
atrial, sodium excretion and, R946
atriopeptide, localization, kidney and adrenal gland, F753
autoradiographic localization, atrial natriuretic polypeptide, F210
baroreceptors
 acute resetting, aortic wall creep and, H149
 aortic stenosis effects, awake state, H159
 control of fluid transport, jejunum, G736
 ouabain effects, renal blood flow, F109
 resetting, aortic dilation sequence, hypertension, H662
 bombesin, neurotensin release and, ileal mucosal cells, G374
 chemoreceptors, arterial, hypoxia and, H7
 cholecystokinin, maturation of, pancreatic acini, G594
 dopamine, sodium excretion and, denervated kidney, F1033
 H₂, gastric emptying and, G244
 hormone, atrial natriuretic polypeptide and, F210
 opiate, renal, mediation of renin secretion and renal nerve stimulation, R973
 opioid, VIP release, cerebral cortex, R104
 osmoreceptor, plasma arginine vasotocin regulation, awake state (cockrel), R644
 somatostatin, neurotensin release and, enteric primary cells, G385
 vasopressin
 downregulation in bladder (toad), C453
 renin secretion and, awake state, F92
Rectal gland, sodium chloride transport, stoichiometry (dogfish), F516
Rectum-anal canal, force measurements in, G260
Red blood cells: *see* Erythrocytes
Refedding: *see* Feeding
Reflexes
 atrial, sodium excretion and, R946

baroreceptor
 γ -aminobutyric acid in, R1065
 nucleus tractus solitarius, R996
 spontaneous hypertension, R910
baroreflexes
 angiotensin II effects, nucleus tractus solitarius, R193
 arterial, circulatory changes during spontaneous motor activity, H426
 carotid, maintenance of function, aging and, R1047
 carotid sinus, interaction of right and left, H96
 control, senescence and, R733
 resetting, H866
cardiac pressor, prostaglandin E₁ and bradykinin interactions, R815
cardiopulmonary
 development of cardiac tamponade, H195
 renal function and, awake state (monkey), H546
cardiovascular, aortic stenosis and, awake state, H159
compensatory systems, interactions, posthemorrhage hypotension, H944
micturition, postnatal development of, R926
respiratory, during mechanical ventilation, anesthesia, R902
Rehydration, dehydration and, angiotensin in, R898
Renal afferent nerves
 dorsal medulla, interactions in, R580
 input, thoracolumbar spinal neurons, R435
Renal artery
 autoregulation, frequency domain analysis, F364
 intrarenal receptors, atrial natriuretic polypeptide, F210
Renal cells: *see* Kidney cells
Renal nerve
 afferent, renovascular hypertension, H82
 denervation, responses to hypoxemia (lamb), F294
 diabetes, norepinephrine turnover and, R567
 epinephrine interaction, renin secretion and, F999
 extrinsic innervation, retrograde tracing study, F189
 low-sodium hypertension, H189
 proximal reabsorption and, F22
 role in hypothalamic natriuresis, cholinergic stimulation, F322
 stimulation, mediation by opiate receptors, R973
 thoracolumbar spinal, renal afferent input to, R435
Renin
 ACTH control and, negative feedback, fetal and adult (sheep), R403
 adrenocorticotrophic hormone and, during hypoxia and hemorrhage, awake state, R240
 atrial natriuretic factor responses to, hypertension, H871
 cortisol-induced inhibition of, fetus (sheep), R795
 hypothalamic lesions and hemorrhage, R18
 inactive, secretion of, E55
 plasma activity
 angiotensin and, dehydration and rehydration, R898

Renin (continued)

- blood viscosity effects, F40
- low-sodium hypertension, H189
- negative feedback control and, fetal and adult (sheep), R403
- production and decay rates, E551
- renal responses to vasopressin infusion, H584
- vasopressin effects, sodium-restricted dogs, F460
- release
 - changes in reflex renal nerve activity and, F559
 - ouabain effects on autoregulation, renal blood flow, F109
 - protein kinase C and, vasoconstrictors, C563
 - suppression by endogenous opiate antagonism, R633
- renal responses, nocturnal, R638
- response, vasopressin and, hypertension, H443
- secretion
 - atrial peptide effects, nonfiltering kidney, F798
 - epinephrine and renal nerve interaction in, F999
 - mediation by opiate receptors, R973
 - vasopressin receptors and, awake state, F92
- Renin-angiotensin-aldosterone system, atrial natriuretic peptide effects, R789
- Renin-angiotensin system
 - adenosine
 - chronic renal effects, F32
 - glomerular filtration, F917
 - drinking (fish), R1034
 - glomerular blood flow, single nephron obstruction and, F77
 - plasma volume loss, spontaneous hypertension, H443
 - renal nerves, low-sodium hypertension, H189
 - RNA-DNA dot-blot hybridization, F374
 - vascular, release of angiotensin II, H144
 - vascular smooth muscle cells, F759
- Reoxygenation, nifedipine, papillary muscle, H208
- Resistance
 - afferent arteriolar, atriopeptin II effects, F1119
 - antroduodenal, fasting and, G773
 - coronary vascular
 - adenosine in, H558
 - endotoxin effects, H240
 - reactive hyperemia, awake state, H474
 - electrical
 - coordinated development in epithelia, C138
 - equivalent pore size for arterial endothelium, H16
 - flow and, portal hypertension, model, G205
 - gastric acid secretion, fundus and antrum (frog), G639
 - luminal
 - omeprazole and, G455
 - thiocyanate effects on acid secretion, gastric mucosa (bullfrog), G76
 - measurement, barriers to solute transport, jejunal, G727
 - peripheral, thyrotropin-releasing hormone in hypovolemia, H1093

- ratios, apical and basolateral, membrane ionic permeability, F339
- renal vascular, adenosine effects, F32
- transepithelial electrical, LLC-PK₁ cells, F734
- venous, venules, skeletal muscle, H828, H838
- Resistance artery, myogenic tone in, denervation effects, ear, H889
- Respiration
 - α -adrenergic stimulated, brown adipocytes, C738
 - intracellular analysis, adult cardiac myocytes, C384
 - oxygen dependence of liver lobule, G800
 - mitochondrial function, cardiac myocytes, C374
 - phase locking, during mechanical ventilation, anesthetized subjects, R902
- Respiratory acidosis: *see* Acidosis
- Respiratory quotient, enteral vs. parenteral nutrition, E47
- Respiratory regulation
 - during mechanical ventilation, anesthetized subjects, R902
 - fastigial nucleus stimulation and, R418
 - resetting of rhythms, R721
- Respiratory rhythm: *see* Rhythms
- Reticuloendothelial system, particle removal from blood (calf), R728
- Retina
 - pigment epithelium
 - electrolyte transport across, F781
 - interactions of pH and potassium conductance (cow), C124
- Retroglial outflow, cerebral blood flow, H305
- Reverse hemolytic plaque assay, growth hormone secretion, sex differences, E650
- Rhythms
 - circadian
 - brown fat thermogenesis, obesity, E274
 - circannual variations (squirrel), R831
 - diurnal excretory cycles, potassium, F930
 - light and dark transition effects (hamster), R708
 - propylthiouracil effects (hamster), R151
 - protein synthesis in, eye (*Aplysia*), R5
 - sexual activity and, males, R665
 - diurnal
 - adrenal, transplantation and, neonate, E87
 - corticosterone relations, paraventricular nucleus, R83
 - glucose disposal and, E576
 - normal, internal countershock during, H736
 - respiratory, resetting, R721
- Ribonucleic acid
 - gastric mucosa, corticosterone effects, during development, G633
 - intrarenal angiotensinogen mRNA, RNA-DNA dot-blot hybrids, F374
 - messenger, activity, insulin effects, diabetic heart, E558
- Ribostamycin, sarcoplasmic reticulum potassium channel and, aminoglycoside blockade, C361
- RNA: *see* Ribonucleic acid

Rubidium

- flux, distal colonic epithelium, low-potassium diet and, F483
- transport, ADH effects, cortical collecting tubules, F1063
- uptake, sodium-potassium-chloride cotransporter, LLC-PK₁/C14 cells, C799
- Rubidium ions
 - osmolarity effects, medullary thick ascending limb cells, F176
 - sodium ions and, exchange rate, spontaneous hypertension, muscle cells, C939
- Running: *see* Exercise
- Ryanodine
 - comparison with caffeine, ventricular myocardium, H786
 - sodium-calcium exchange, postrest inotropy and, H654

S**Saliva**

- composition, effects of sodium depletion, parotid gland (sheep), F503
- responses to food, gastric acid secretion and, G85

Salt

- excretion
 - prostaglandins and, renal denervation, F895
 - urinary kallikrein activity and, F1082
- solutions, cardiac myocyte stiffness and, H932
- Saphenous artery, vibration effects, H519
- Saponin, enzyme secretion and, pancreatic acini, G698

Saralasin

- angiotensin II and, sodium appetite suppression, R251
- angiotensin II inhibition and, blood pressure and hemodynamics, pregnancy, F308

Sarcolemma

- calcium, augmentation of, anionic amphiphile, H247
- calcium ion binding, adriamycin stimulation of, H419
- heterogeneous responses, calcium, H741
- hypertrophy, prolonged response to ouabain, H923
- membrane, chronotropic responsiveness, uremia and, H846

Sarcolemmal vesicles, skeletal muscle, insulin binding, training effects, E570**Sarcoplasmic reticulum**

- calcium
 - content, sodium-calcium exchange and, H654
 - release, synthetic atrial peptide effects, C171
 - uptake in, thyroidectomy effects, H861
- cardiac, effects of changing calcium-to-hydrogen ratio on calcium uptake, H360
- coupled sodium-calcium transport, cultured heart cells (chick), C442
- inositol trisphosphate, calcium release from muscle, C807
- inotropy and relaxation, myocardium, H1008
- potassium channel, voltage-dependent aminoglycoside blockade, C361
- ryanodine, caffeine comparison, H786

SUBJECT INDEX TO VOLUME 250

- Satellite cells, glucose oxidation, cyclic adenosine monophosphate, myotubes, C713
- Satiety: *see also* Feeding
 - central action of glucagon, hypothalamus, R120
 - dehydration and rehydration, angiotensin in, R898
 - fasting interval, CCK-8 effects (baboon), R851
 - feeding control, infant, R807
 - fenfluramine effects, feeding and gastric emptying (monkey), R764
 - glucagon, alloxan injection effects, R682
- Sch 23390, glomerular filtration rate and, kidney, F674
- Seasonal acclimation, vascular smooth muscle response, hibernator (woodchuck), R77
- Secretagogues
 - calcium and, gastric glands, G814
 - enzyme secretion and, pancreatic acini, G698
 - luteinizing hormone, cAMP augmentation of, E62
 - pancreatic, somatostatin release and, G15
- Secretin
 - duodenal motility relations, fasting and feeding, G570
 - effect on glomerular dynamics, F256
 - indomethacin-furosemide antagonism and, F980
 - insulin release and, pancreatic islets, E107
 - multiple neuropeptides, single smooth muscle cell effects, C792
 - pyruvate and lactate secretion and, pancreas, G398
 - VIP receptor antagonist and, G553
- Senescence
 - baroreflex control and, R733
 - carotid baroreflex function and, R1047
- Sepsis
 - calorie source and, parenteral nutrition, E312
 - norepinephrine turnover, cardiac and splenic, R892
 - pyruvate dehydrogenase complex activity and, skeletal muscle and liver, E634
- Septic shock: *see* Shock
- Serine, synthesis, kidney, F649
- Serotonin
 - arachidonic acid metabolites, gap junctions, trachea, C495
 - transport
 - hypoxia, pulmonary artery endothelial cells, C766
 - pulmonary artery endothelium, C761
- Sex differences
 - adipose tissue volume in women, computed tomographic determination of, E736
 - growth hormone secretion, reverse hemolytic placue assay, E650
 - reproductive development, food restriction and, R370
- Sex steroids, ovarian, effect on osmoregulation and vasopressin, E352
- Sexual activity, correlates of loss, aging males, R665
- Shock
 - endotoxic, cellular calcium regulation in, liver, R884
 - heat, stress protein systems, mammalian cells, C1
- hemorrhagic, physiological responses, R951
- septic
 - β -adrenergic stimulation of adenylate cyclase, myocardial, R358
 - norepinephrine turnover, cardiac and splenic, R892
- Shunt: *see* Bypass
- Sinoatrial node, pacemaker cells from, H325
- Sinus node
 - automaticity, differential sympathetic-parasympathetic interactions, H43
 - cardiac nerve effects, heart rate, rhythm, and pacemaker location, H630
 - pacemaker rhythm in, digitalis intoxication effects, H567
- Skin
 - blood flow: *see* Blood flow
 - sodium transport, bioenergetics of, model (frog), F1107
 - transepithelial transport, prostaglandin release, calcium ionophores, C629
- Sleep state
 - endorphin effects, heart rate and blood pressure, H796
 - interleukin 1-enhanced, brain temperature changes, R96
- Sleep-wake cycle, predictive versus reactive homeostasis, R737
- Slow waves
 - intestinal, boundary cells and, G287
 - intestinal musculature, G28
- Sodium
 - absorption, glucose-coupled, developing colon, G221
 - acidosis effects, bone, F1090
 - active transport
 - hormone regulation of, A6 epithelia, thermodynamic modeling, C978
 - urinary bladder epithelium (trout), R227
 - activity, sugar and amino acid effects, intestines (snake), G109
 - aortic contractile response and, hypertension, H612
 - appetite, central actions of angiotensin II and, R251
 - basolateral bicarbonate transport and, proximal tubule, F267
 - bicarbonate absorption and, proximal tubule, F1046
 - body, response to deoxycorticosterone acetate, F551
 - cellular compartments, smooth muscle cells (toad), C76
 - channel, amiloride-sensitive, C165, C175
 - cotransport, apical membrane ionic permeability, proximal convoluted tubule, F339
 - depletion, osmotic regulation of vasopressin and, R287
 - effects on iodide transport, thyroid cells (turtle), E464
 - electrolytes
 - handling, superficial nephron, F590
 - transport, retinal pigment epithelium, F781
 - exchangeable, shell size and (turtle), R1133
 - excretion
 - atrial natriuretic factor effects, pregnancy, R589
 - atrial stretch effects, R946
 - changes in reflex renal nerve activity and, F559
 - cirrrosis with ascites, F749
 - control by angiotensin, R960
 - diurnal cycles, F930
 - dopamine receptor modulation of, denervated kidney, F1033
 - effect of intermittent feeding, F566
 - endotoxemia and, awake state, F1098
 - native and artificial tubular fluid effects, F16
 - renal α -adrenoceptors and, F949
 - renal effects of adenosine, F32
 - renal response to vasopressin infusion, H584
 - tubuloglomerular feedback control of, F1024
 - vasopressin effects, plasma renin activity, F460
 - vasopressin escape, renal, F907
 - extracellular ATP effects, isolated hepatocytes, R573
 - flux, sodium-potassium transport, hypertension, C540
 - hexose transport and, cell proliferation, LLC-PK, epithelia, C314
 - hypertension and, ATPase function, vascular smooth muscles, C535
 - intracellular activity
 - aldosterone and colonic potassium transport and, colon, F235
 - aldosterone stimulation, bladder, F273
 - chloride secretion, tracheal epithelium (dog), C646
 - low, sodium-potassium-ATPase and, heart cells, C32
 - membrane permeability, corneal epithelium (bullfrog), F850
 - osmolality and solute transport, proximal tubules, F246
 - permeability: *see also* Permeability
 - potassium fluxes and, distal tubules, F885
 - pump: *see* Pump
 - reabsorption, effect of renal perfusion pressure on, F425
 - removal, insulin release requirement, intracellular pH, C207
 - renal excretion and, chick (gull), R41
 - renal handling of chloride and bicarbonate, calcium effects, F441
 - restriction
 - renal nerves in, H189
 - vasopressin effects on plasma renin activity and, F460
 - retention, adrenal enucleation, E1
 - secretion, sodium chloride transport, rectal gland (dogfish), F516
 - sugar transport and, intestine, G448
 - taurine transport and, kidney (fish), R984
 - transfer, electrical activity and, placenta (pig), R474
 - transport
 - activators of protein kinase C inhibition, A6 epithelia, C517
 - amiloride analogues, proximal tubule metabolism, C744
 - amiloride-sensitive channel, C175
 - calcium antagonist effects, ileum, G691
 - cellular origins, bladder (turtle), C609
 - diuretic drug effects, distal tubules, F1013
 - epithelial, bioenergetics of, model (frog), F1107
 - inhibition by atrial natriuretic factor, medullary collecting duct, F963

- Sodium (*continued*)
 inhibition, potassium transport and, cortical collecting tubules, F120
 ion fluxes and, proximal tubule, F680
 LLC-PK₁ cells, density gradients, C199
 nicotinic acid, C694
 osmotic diuresis, proximal tubules, model, F874
 polycation inhibition, ADH-induced water flow, C729
 prostaglandin release, calcium ionophores, C629
 proximal tubules, model, F860
 sodium-hydrogen antiporter activity, parathyroid hormone inhibition, F217
 spontaneous hypertension, G412
 urinary excretion, effect of amiloride on, F400
- Sodium-calcium exchange
 angiotensin effects, vascular smooth muscle cells, F759
 contractures, ventricular strips (frog), C155
 countertransport, ATPase mechanism, hypertension, C557
 coupled transport, cultured heart cells (chick), C442
 cytosolic free calcium concentration and, cultured renal epithelial cells, F329
 depolarized heart cells, C651
 postrest inotropy and, H654
- Sodium chloride
 cotransport
 kidney tubules (quail), R333
 medullary thick ascending limb cells, F176
 electrogenic symport, resistance and potential of fundus (frog), G511
 electroneutral transport, proximal convoluted tubules, F644
 secretion, proximal tubules (flounder), R616
 secretory, volume flow and, kidney tubules (flounder), R753
 transport
 prostaglandin release, MDCK cells, C676
 rectal gland (dogfish), F516
- Sodium-hydrogen antiporter
 amiloride analogues, proximal tubule inhibition, C744
 parathyroid hormone inhibition, cultured renal cell line, F217
- Sodium-hydrogen exchange
 basolateral membranes, C920
 bicarbonate and, gastric glands, G524
 colonic brush-border membrane vesicles, G781
 cytoplasmic alkalization, insulin-induced, glucose transport, C720
 membrane vesicles, liver, G35
 neutrophils, amiloride-sensitive antiporter characterization, C283
 regulation of intracellular pH, hepatocytes (trout), R24
 renal proximal tubular cells, phorbol ester-induced alkalization, F451
 sarcolemmal vesicles, superior mesenteric artery, H313
 sodium requirement for insulin release and, intracellular pH regulation, C207
 urinary bladder epithelium (trout), R227
- Sodium ions
 absorption, quinidione effects, colonic epithelial cell line, G806
 intracellular, vascular smooth muscle cells, hypertension effects, C948
 osmolarity effects, medullary thick ascending limb cells, F176
 permeability response, gastric mucosa, G617
 rubidium ions and, exchange rate, spontaneous hypertension, muscle cells, C939
 transport, distal colon, neonatal, G754
- Sodium nitroprusside, ACTH and renin secretion, cortisol-induced inhibition of, fetus (sheep), R795
- Sodium oleate, pancreatic and gallbladder responses to cholecystokinin, G665
- Sodium potassium
 flux ratio, corneal epithelium (bullfrog), F850
 pump: *see* Pump
 regulation, spontaneous hypertension, vascular smooth muscle cells, C939
- Sodium-potassium-ATPase
 amiloride analogues, proximal tubule metabolism inhibition, C744
 epithelial activity, absorption, secretion, and deficiency of, colon, F235
 hexose transport and, LLC-PK₁ cells, density gradients, C199
 hypertension and, vascular smooth muscle, C535
 low-sodium effects, heart cells, C32
- ouabain
 binding site and, vascular smooth muscle, C536
 hypertrophied heart, H923
 structure, immunological analysis, kidney, C896
 structure-function, distal nephron, F1
 subcellular distribution, parotid gland, C430
 transport, proximal colon, G475
- Sodium-potassium-chloride
 bradykinin and vasopressin stimulation of, cultured endothelial cells, C888
 cotransporter, intracellular, tracheal epithelium (dog), C646
- Sodium-potassium exchange
 chloride and, bumetanide, LLC-PK₁/C14 cells, C799
 transport
 mineralocorticoid-salt hypertension, C540
 transmembrane potential, C547
- Sodium sugar, cotransport, intestinal, G448
- Soleus muscle
 structure and function, grafts, C474
 surface pH, intracellular pH regulation, C748
- Solutes
 barriers to transport, measurement of resistance, jejunal, G727
 distal tubule, kidney (snake), F430
 excretion, renal, atrial natriuretic factor effects, F710
 transport, osmolality and, proximal tubules, F246
- Somatomedins, myoblast differentiation, biphasic concentration dependency, C771
- Somatostatin
 binding and degradation, membrane vesicles, gut (pig), G679
 cholecystokinin release and, control of pancreatic secretion, G391
 ectopic activity fronts and, G149
 functional difference between enkephalin, myenteric plexus, G60
 glucose infusion response, insulin concentrations and, E306
 inhibition of gastrin release, potential role, G331
 plasma, circulating forms, E428
 prolactin release, arachidonate metabolism role, E288
 prostaglandin interactions, gastric glands, G607
 receptors: *see* Receptors
 release
 pancreatic secretagogue effects, G15
 phorbol ester effects, cultured cells, intestine, G686
 salivary responses, gastric acid secretion and, G85
 secretion, vagal nerve stimulation effect, E212
- Somatostatin-13, somatostatinlike immunoreactivity, circulating forms, human plasma, E428
- Somatostatin-28, somatostatinlike immunoreactivity, circulating forms, human plasma, E428
- Des-Ala¹-Somatostatin, somatostatinlike immunoreactivity, circulating forms, human plasma, E428
- Somatotrope, growth hormone secretion, sex differences in, E650
- Somatotropin release-inhibiting factor, phorbol ester effects, cultured cells, intestine, G686
- Sonomicrometry, superoxide dismutase and catalase effects, stunned myocardium, H372
- Spectral analysis, interpulse interval sequence, LH, normal men, E338
- Spectrin, neural cell skeleton review, C347
- Spectrometry, mass, glucose infusion response, E306
- Sperm, stores, aging and, R665
- Spermatogenesis
 calmodulin and calmodulin-binding protein activities, testis, C299
 photo-induced adjustments, testicular function, R199
- Spermidine, pulmonary uptake, after pneumonectomy, E435
- Sphincter of Oddi, contraction pattern, during fasting and after feeding (opossum), G227
- Splanchnic nerve, least, thoracolumbar spinal, renal afferent input to, R435
- Spleen, norepinephrine turnover, septic peritonitis, R892
- Starling's hypothesis, capillary permeability, macromolecules and, H706
- Starvation: *see* Fasting
- Stenosis, bilateral, femoral artery, training effects, H1050
- Steroidogenesis, angiotensin II stimulus, adrenal glomerulosa cells, E125
- Steroids
 adrenal, sodium retention and, E1
 gonadal, estrogen inhibition of LH and FSH secretion, E341
 reproductive, neurons in preoptic hypothalamic tissue slices and, R625
- Stomach
 corticosterone effects, during development, G633

- damage, gastric alkaline response to, G842
- extra-abdominal pressure, food intake and gastric emptying in, R549
- fenfluramine effects, feeding and gastric emptying (monkey), R764
- fill, feeding control, infant, R807
- gastric motility effects, cold restraint-induced lesion formation, G191
- gastric mucosal barrier, lysolecithin-lipid interactions, G275
- Streptozotocin, diabetes, insulin binding and, E186
- Stress**
- ACTH release induced by, hypothalamic PVN lesion effects, E319
- angiotensin extraction and, gill (trout), R532
- corticosterone secretion
- histamine mediation, E243
- pituitary-adrenocortical system and, E470
- negative feedback control, ACTH and renin, fetal and adult (sheep), R403
- protein systems, mammalian cells, C1
- thermomechanical, mechanical response, knee menisci, R65
- Structure-function relations, distal nephron, F1
- Subfornical organ, ablation, angiotensin-induced water drinking (sheep), R1052
- Submandibular gland
- calcium and calmodulin role, serine protease release in, C480
- removal, nerve growth factors levels and, E386
- Substance P**
- abdominal visceral afferent stimulation, R465
- gastric acid and pepsin secretion, tachykinin effect (codfish), G309
- inhibition of motility, small intestine, G21
- longitudinal smooth muscle contractions, role of (opposum), G336
- multiple neuropeptides, single smooth muscle cells, C792
- VIP receptor antagonist and, G553
- Substrates**
- competition, free fatty acids and blood amino acids, E686
- metabolism, cardiac myocytes, H853
- renin, negative feedback control, fetal and adult (sheep), R403
- Sucrase-isomaltase, synthesis, diabetes and, intestinal mucosa, G788
- Sucrose**
- dietary, triglyceride kinetics and, E325
- synergistic improvement, glucose tolerance, E607
- Sugar**
- chloride transport and, intestinal (snake), G109
- transport, intestinal, G448
- Sulfate, transport systems, DIDS inhibition of, renal, F226
- Sulphydryl, hexose transport and, erythrocytes, C853
- Sulfonylurea, gluconeogenesis and, hepatic, E82
- Superoxide anions, endothelium-derived relaxing factor and, H822
- Superoxide dismutase
- catalase and, actions in stunned myocardium, H372
- endothelium-derived relaxing factor and, H822
- flow, endothelium-derived relaxing factor and, H1145
- myocardial function and, H595
- vascular smooth muscle and, H815
- Surfactant, pulmonary, apolipoproteins of, using monoclonal antibodies, C460
- Sweat glands, eccrine, proteolytic enzymes, R691
- Swimming: *see* Exercise
- Sympathetic activity, arterial wall, high-altitude effects, R485
- Sympathetic afferents, cardiac, prostaglandin E₁ and bradykinin interactions, R815
- Sympathetic nerves
- activity, GABA in, R1065
- blood pressure control and, development, R188
- fluid transport and blood flow, jejunum, G736
- renal
- baroreceptor reflex resetting, H866
- development of cardiac tamponade, H195
- sinoaortic denervation, hypoxia, circulatory responses to, awake state, R868
- Sympathetic nervous system
- blood flow and, cerebral, during normocapnia, H498
- blood pressure and, maintenance, R770
- brown fat denervation, dietary obesity and, R1108
- cafeteria diet effect, brown adipose tissue, obese mice, E274
- chronic angiotensin infusion, neurohumoral contributions to, H52
- diet and photoperiod effects, brown fat (hamster), R383
- norepinephrine turnover
- kidney, R567
- sepsis, R892
- skeletal muscle vasodilation, electrical stimulation of preoptic recess, H221
- Sympathoinhibition, baroreceptor-mediated, GABA in, R1065
- Sympathomimetic amines, vascular tone and, pulmonary circulation, H1109
- Synapsin I, neural cell spectrin skeleton, C347
- Synaptosomes, brain, water and nonelectrolyte permeability in, R306
- Syndein, neural cell spectrin skeleton and, C347
- T**
- Tachycardia, blood flow during, myocardial, H968
- Tachykinins, effects on gastric acid and pepsin secretion (codfish), G309
- Tachyphylaxis, prostaglandin E₁, bradykinin interactions, R815
- Taenia coli, cross-bridge inhibition, vana-date, skinned smooth muscle, C325
- Taurine**
- DOCA-salt and, blood pressure and fluid changes, R1007
- secretion, kidney (snake), R712
- transport, ionic requirements of, kidney (fish), R984
- Taurocholate
- absorption, free bile acid effects, ileum, G648
- hepatic extraction, specificity and mechanism, G344
- Taurodeoxycholate, calcium effects on, jejunum, G248
- T₈₄ cells, epithelial cell line from carcinoma, potassium recycling and chloride secretion, C486
- Temperature**
- acclimation, cultured hepatocytes (teleost), R211
- cold, adaptation, brown adipocytes, C228
- insulin processing, chloroquine effect, E148
- neurons and, preoptic hypothalamic tissue slices, R625
- regulation, blood flow and, leg (baboon), R30
- vascular smooth muscle response, hibernator (woodchuck), R77
- Temperature, body**
- colonic, thyroid hormone replacement, food deprivation and, R861
- correlates of sexual loss, males, R665
- endogenous pyrogen effects, R776
- epinephrine and norepinephrine infusion effects, E518
- oxygen consumption rate and (pangolin), R377
- radio-frequency exposure and, ECG during, H320
- tritium oxide, pulmonary extraction of, H1017
- Tension, myosin phosphorylation, striated muscles, C657**
- Terminology, mass transport and exchange, H539**
- Testis, function, photo-induced multiple neuroendocrine adjustments in, R199**
- Testosterone**
- neurons and, preoptic hypothalamic tissue slices, R625
- photo-induced adjustments, testicular function, R199
- prostate growth, aging and, R1039
- serum nerve growth factor, aggressive behavior and, E386
- Tetraphenylphosphonium, cellular pH gradients and, use of weak bases for estimation, C418
- Tetrodotoxin**
- low sodium and, sodium-potassium-ATPase, heart cells, C32
- thyroid iodide transport, TSH action and, E164
- ventricular cardiac muscle cells, H731
- Theophylline, ion transport and, distal colon, neonatal, G754
- Thermal responses, oxygen consumption (pangolin), R377**
- Thermodynamics, irreversible, terminology for mass transport, H539**
- Thermogenesis**
- α -adrenergic-stimulated respiration, brown adipocytes, C738
- brown adipocytes and, cold adaptation, C228
- brown fat
- after adrenalectomy, E352
- denervation, diet-induced, R1108
- energy balance and, ovarian hormone effects, R245
- energy balance and, pregnancy (hamster), R845
- obese mice, E274

Thermogenesis (*continued*)
 enteral vs. parenteral nutrition, E47
 facultative, carbohydrate-induced, E226
 fructose and glucose comparison in, E718
 nonshivering, diet and photoperiod effects, brown fat (hamster), R383
 postprandial, meal size and frequency effects, E144
 Thermopreferendum, behavioral fever and therapy, *Rickettsia* infection (cricket), R991
 Thermoregulation
 amine effects, neurons, brain stem, R553
 cafeteria diet, brown adipose tissue, E274
 circadian timing system, physiology of, R737
 ventromedial hypothalamus, awake state, R560
 Thermotolerance, stress protein systems, mammalian cells, C1
 Thioacetamide, urea concentration and ODC, female rat liver, E377
 Thiocyanate
 gastric acid secretion and (bullfrog), G76
 iodide transfer, placenta (sheep), R112
 omeprazole and, resistance and potential of fundus (frog), G511
 Thirst: *see* Drinking
 Thoracic duct, lymph flow, blood volume expansion effects, pregnancy (sheep), R1095
 Thromboxane
 alteration of chloride secretion, tracheal epithelium, F47
 blood flow and, jejunum, G64
 glomerular size and, angiotensin and prostaglandin effects, F348
 renal synthetase inhibition, hydronephrotic kidneys, F282
 vasoconstriction, reversal by diltiazem, renal and smooth muscle, F619
 Thromboxane A₂
 arterial pressure and renal function, spontaneous hypertension, F488
 receptor antagonist, renal function, spontaneous hypertension, F488
 synthetase inhibitor, renal function, spontaneous hypertension, F488
 Thymidine
 cell proliferation and, hexose transport in LLC-PK₁ epithelia, C314
³H-labeled, gastric mucosal cell turnover and, G830
 Thyroid cells, membrane potential, TSH and cAMP effects, E164
 Thyroidectomy
 antihypertensive effects, spontaneous hypertension, H600
 spontaneous hypertension and, H861
 Thyroid glands
 iodide transport, valinomycin effect, E164
 status, atrial and ventricular isomyosins, H333
 Thyroid hormones
 circadian rhythms, propylthiouracil effects (hamster), R151
 isomyosins and, atrial and ventricular, H333
 pulmonary alveoli postnatal development and, R51
 replacement, β -adrenergic responsiveness to food deprivation, R861

Thyroid-stimulating hormone, cAMP formation stimulation, effect of valinomycin, E164
 Thyroparathyroidectomy, renal handling of chloride and bicarbonate, increased calcium effects, F441
 Thyrotropin, autoregulation, pituitary gland, E121
 Thyrotropin-releasing hormone
 GH and, stimulation of growth hormone, E512
 hypovolemia, H1093
 prolactin release, arachidonate metabolism role, E288
 Thyrotropin-stimulating hormone, regulation, pituitary gland, E121
 Thyroxine
 differential effects, atrial and ventricular isomyosins, H333
 replacement, β -adrenergic responsiveness to fasting, R861
 Time series, pulsatile LH secretion, interval sequence analysis, E338
 Tissue: *see also* specific type and site
 culture, antral, gastrin release inhibition, G331
 impedance, intercellular electrical coupling, atrophy and hypertrophy, C292
 parameters, leucine metabolism, E615
 Titratable acid, chronic metabolic acidosis and, inner medullary collecting duct, F690
 Titration, null-point technique, cytosolic free calcium concentration, renal epithelia, F329
 Tolbutamide, gluconeogenesis and, hepatic, E82
 Tomography
 computed, adipose tissue volume in women, E736
 methodology, gluconeogenesis estimation, labeled carbon, E296
 Tonin, kallikrein and, calcium and calmodulin role, submandibular gland, C480
 TPP: *see* Tetraphenylphosphonium
 Tracer
 efflux, sodium-24, coupled sodium-calcium transport in cultured heart cells (chick), C442
 kinetics, insulin sensitivity, glucose clearance and, E591
 Trachea
 gap junction formation, arachidonic acid metabolites, C495
 skinned smooth muscle, cross-bridge inhibition, vanadate, C325
 Tracheal epithelium, chloride secretion across, alteration by arachidonic acid, F47
 Training: *see* Exercise
 Transmural nerve, stimulation, calcitonin gene-related peptide, right atrium (guinea pig), H693
 Transport: *see* specific site or substance
 TRH: *see* Thyrotropin-releasing hormone
 Triacylglycerol, synthesis, coenzyme A and, heart, H351
 Triamterene, iodide uptake, cultured thyroid cells (turtle), E464
 Trifluoperazine
 calcium-calmodulin regulation, adenylate cyclase, parotid gland, C642

parathyroid hormone, calcium role in, proximal tubules, F942
 potassium transport and, colon, G432
 Triglycerides
 dietary sugar effects, with or without hyperinsulinemia, E325
 glucose tolerances and, E607
 kinetics, dietary sugar effects, E325
 medium-chain and long-chain, calorie source comparison, sepsis, E312
 secretion rate, insulin infusion, chronic renal failure, E373
 transport, by enterocytes to lymphatics, G715
 Triiodothyronine
 replacement, β -adrenergic responsiveness to fasting, R861
 serum, norepinephrine and epinephrine infusion effects, E518
 Tritium oxide, pulmonary endothelial extraction of, lung temperature and, H1017
 Triton X-100, skinned aorta, forskolin and cyclic nucleotide effects, C468
 Trypsin
 inhibitor, pancreas involution and, cell death, G9
 pancreatic enzyme secretion and, G252
 Trypsinogen, enterokinase modulation, small intestines, G103
 Tubules: *see* Kidney tubules
 Tubuloglomerular feedback: *see* Feedback
 Tumor cells, clonal variation, cadmium response, C256
 Tyrosine, release, muscle, R207
 Tyrosine aminotransferase, glucocorticoid induction, after endotoxin treatment, E218

U

Ulcers
 mucosal, time course, G749
 stress, gastric motility effects, G191
 Ultrafiltration
 glomerular, albumin effects, glomerulus, F901
 macromolecules and, H706
 Ultrasonic echo, tracking, arterial elasticity, H181
 Umbilical cord, blood flow: *see* Blood flow
 Uncoupling
 cold adaptation and, brown adipocytes, C228
 smooth muscle cells, intercellular changes, atrophy and hypertrophy, C292
 Urea
 flux, polycation inhibition, ADH-induced water flow, C729
 formation, acid-base balance regulation of, F605
 liver, ODC and, female rat, E377
 permeability: *see* Permeability
 production, ammonium excretion and amino acid oxidation, acid-base balance, F181
 transport
 brain synaptosomes, R306
 renal basolateral membranes, F633
 vasopressin receptors and, downregulation, C453
 vasotocin and, bladder (toad), E31
 Ureagenesis
 ammonium excretion, amino acid oxidation and, acid-base balance, F181

SUBJECT INDEX TO VOLUME 250

- glutamine flow regulation, metabolic acidosis, E457
- pH and, F605
- pH homeostasis and, F1128
- Uremia
 - β -adrenergic responsiveness in, H846
 - brain synaptosomes, water and nonelectrolyte permeability in, R306
 - triglyceride metabolism, insulin correction, E373
- Urethan, anesthesia, TRH and GRF stimulation of growth hormone, E512
- Urinary bladder
 - acid-base transport, cellular origins (turtle), C609
 - alkaline cell, fluorescence identification of (turtle), F159
 - antidiuretic hormone-treated, water permeability in (toad), F845
 - calcium ionophores, transepithelial transport, C629
 - epithelium, sodium and chloride active transport (trout), R227
 - polycation inhibition, ADH-induced water flow, C729
 - urea permeability, neurohypophyseal hormones and (toad), E31
 - vasopressin receptors in, downregulation (toad), C453
 - volume, regulation, intracellular calcium effects (toad), C841
- Urine
 - fetal, amniotic fluid osmolality and (ewe), R235
 - flow, arginine vasopressin and, F1008
 - formation, glomerular and glomerular (flounder), R753
 - ureteral, modification in lower intestine (sparrow), R89
 - volume: see Volume
- Urogastrone
 - epidermal growth factor binding sites, adult liver, G760
 - salivary responses, gastric acid secretion and, G85
- Urokinase, LLC-PK₁ cell clones, phenotypically stable subpopulations, C682
- Uterus
 - blood flow: see Blood flow
 - growth, protein turnover, E114
 - postpartum involution, protein turnover, E114

V

- Vagotomy, calcitonin gene-related peptide actions, gastric acid secretion, awake state, G742
- Vagus nerve
 - calcitonin, intestinal secretion and, G172
 - control, postprandial upper gastrointestinal motility, G501
 - noncholinergic dilatation and, gastric arterioles, G660
 - regulation of renal function, awake state (monkey), H546
 - stimulation
 - blood flow limitation of, gastric mucosa, G794
 - effect on somatostatin secretion, E212
 - peristaltic contractions, esophageal smooth muscle (opossum), G50
- Valine, degradation, skeletal muscle, E599
- Vanadate
 - cross-bridge inhibition, skinned smooth muscle, C325
 - effect on insulin binding, skeletal muscle, E198
- Vasa vasorum, arteries and veins, blood flow, H434
- Vascular anatomy, hydrostatic pressure profile and, cheek pouch (hamster), H291
- Vascular endothelium, sodium-potassium-chloride, bradykinin and vasopressin stimulation of, C888
- Vascular segments, measurement of compliance in, R142
- Vascular tone
 - elevated, adrenoceptor responses, pulmonary circulation, H1109
 - noninvasive measurement, H181
- Vasoactive drugs, mechanical effects, carotid sinus, R1074
- Vasoactive intestinal peptides: see Peptides
- Vasoactive substances, prostaglandin release and, glomerular, F811
- Vasoactivity, iliac, endothelial-mediated, awake state, H892
- Vasoconstriction
 - adrenergic, coronary hypoperfusion during, H645
 - angiotensin-receptor signaling, vascular smooth muscle cells, F759
 - antagonism, atrial natriuretic factor and, F520
 - iliac, endothelial-mediated, awake state, H892
 - norepinephrine-induced, relaxation time of, 5-hydroxytryptamine effects, H121
 - prostaglandin-induced, reversal by diltiazem, renal and smooth muscle, F619
- Vasodilation
 - active hyperemia, skeletal muscle, H62
 - β -adrenergic and, eicosonoids, C406
 - coronary, hypoxia during, adenosine effects, H579
 - endothelium-derived relaxing factor, flow-induced release of, H1145
 - iliac, endothelial-mediated, awake state, H892
 - maximal, transmural flow reserve, H276
 - methylene blue and ETYA, femoral artery, H974
 - skeletal muscle, during electrical stimulation of preoptic recess, H221
 - vagal nerve stimulation, gastric arterioles, G660
- Vasodilator, mechanical effects, carotid sinus, R1074
- Vasomotion, postocclusive reactive hyperemia, H765
- Vasopressin: see also Antidiuretic hormone
 - activation of adenylate cyclase, subunit dissociation, C115
 - arginine
 - cAMP production, calcium effects, thick ascending limbs of Henle, F770
 - effects on plasma renin activity, F460
 - fetal recirculation, amniotic fluid (sheep):E253
 - function in pregnancy (sheep), F777
 - hypoxia and hypercapnia, pituitary responses to, H7
 - isovolemic hypotension, fetus (ewe), E564
 - prostaglandin release and, glomerular, F811
 - secretion, ovarian sex steroid effects, E352
 - sympathetic nervous system and blood pressure maintenance, R770
 - atrial stretch and, awake state, R221
 - calcitonin gene-related peptides, gastric acid secretion and, awake state, G742
 - cAMP stimulation, collecting tubule cells, F802
 - chronic infusion, cardiovascular and renal responses, H584
 - 1-deaminase-8-D-arginine, increased prostaglandin E₂ excretion by, F1008
 - effects, amiloride-sensitive sodium channel, C175
 - electrical stimulation and, subfornical organ, R1117
 - ion transport across alveolar monolayers and, C222
 - LLC-PK₁ cell clones, phenotypically stable subpopulations, C682
 - methionine-enkephalin and, spontaneous hypertension, R1007
 - neurohypophyseal secretion and, R267
 - nucleotides, nephrogenic diabetes insipidus, F151
 - osmoregulation of
 - after sustained hyponatremia, R444
 - sodium depletion and angiotensin II effects, R287
 - potassium transport, sodium transport inhibition and, cortical collecting tubule, F120
 - prostaglandin
 - effects, cortical collecting duct, F127
 - synthesis and, renal tubular cells, F790
 - receptors: see Receptors
 - release
 - atrial natriuretic peptide effects, R789
 - prostaglandin effects, awake state, R1028
 - renal escape, pressure diuresis in, F907
 - renal responses, nocturnal, R638
 - renin
 - release inhibition, protein kinase C, C563
 - response, hypertension, H443
 - response to, epithelial organization in A6 cells, C138
 - rubidium transport and, cortical collecting tubules, F1063
 - stimulation, sodium-potassium-chloride cotransport, cultured endothelial cells, C888
 - water flow induced by
 - parathyroid hormone inhibition, F532
 - polycation inhibition, water channels, C729
- Vasotocin
 - arginine
 - diluting segment in kidney (quail), R341
 - regulation, awake state (cockrel), R644
 - regulation in water deprivation, awake state (cockrel), R658
 - measuring effects, urea permeability, bladder (toad), E31

Vasotocin (*continued*)
 plasma, urea permeability, bladder (toad), E31
 receptors in bladder and, downregulation of (toad), C453
 Velocimetry, laser Doppler, postocclusive reactive hyperemia, H765
 Vena cava
 blood flow, luminal oxygen pressure and, H434
 catheter, large volume blood sampling, new protocol, E331
 Venoconstriction, catecholamines, hepatic blood volume and, H992
 Venous outflow method, monitoring cerebral blood flow, H305
 Ventilation
 bilateral carotid reflex interaction, H96
 mechanical, respiratory phase locking during, anesthetized subjects, R902
 Ventral medulla, neurons of C₁ area, cardiovascular responses and, R932
 Ventricles: see Cerebral ventricles; Heart ventricles
 Ventriculography, biplane, H131
 Ventrolateral medulla
 anterior, sympathoexcitatory neurons in spontaneous hypertension, R910
 rostral, GABA in, R1065
 Verapamil
p-aminohippurate transport and, kidney cortical slices, F785
 heart failure and (hamster), H22
 histamine-induced protein leakage and, hypertension, H284
 low-sodium and, sodium-potassium-ATPase, heart cells, C32
 mechanical activity, skeletal muscle, C40
 platelet function and, H366
 potassium disposal and, extrarenal, F650
 prostaglandin synthesis, renal tubular cells, F790
 ventricular cardiac muscle cells, H731
 VIP: see Peptides, vasoactive intestinal and Polypeptides, vasoactive intestinal
 Vitamin C
 monosaccharide transporter, placental membrane vesicles, C637
 transport, kidney, F627
 Vitamin D
 phosphate absorption and, intestines, G369
 regulation, calcium transport and, intestinal, G561
 skeletal development and, neonate, E725
 Vitamin D₃, phosphate absorption and, intestines, G369
 Vitamins, absorption, intestinal (rat, chick), G155
 Voltage
 current analysis and, sodium stimulation by aldosterone, bladder, F273

current relations and, chord/slope conductances, electromotive force, C333
 transepithelial
 kidney tubules (quail), R333
 lumen-positive, kidney (quail), R341
 proximal tubules, F680
 Volume
 atrial, during hemorrhage, H1136
 blood
 arginine vasotocin regulation, awake state (cockere), R644
 catecholamine effects, liver, H992
 homeostasis, circadian timing system, R737
 nocturnal responses to volume expansion, renal, R638
 postural changes and, H68
 thoracic duct lymph flow and, pregnancy (sheep), R1095
 vagally mediated regulation, awake state (monkey), H546
 cell
 calcium effects, bladder (toad), C841
 hypertonic regulation, thick limbs, C907, C920
 depletion, filtration by superficial and deep glomeruli, F86
 epithelial cells, cAMP effects, cytoskeleton of MDCK cells, C319
 expansion
 extracellular, tubuloglomerular feedback control of, F1024
 glycerol volume depletion and, acute renal failure, F315
 nocturnal responses to, renal, R638
 loading
 glycerol depletion, acute renal failure, F315
 pulsus alternans, heart (pig), H606
 plasma
 hypothalamic lesions and hemorrhage, R18
 vasopressin and renin, spontaneous hypertension and, H443
 reabsorption, osmolality and solute transport, proximal tubules, F246
 regulation
Amphiuma red blood cells and, calcium-hydrogen exchange, C423
 hexose transport, LLC-PK₁ cells, density gradients, C199
 intracellular calcium effects (toad), C841
 neurohypophyseal secretion, R267
 osmolality and solute transport, proximal tubules, F246
 urine, cirrhosis with ascites, F749
 vascular, technique for measurement, R142

W

Washout, medullary, atrial natriuretic factor and, F520

Water
 permeability: see Permeability
 body
 energy expenditure and, R823
 sex differences, E736
 brain, hyponatremia and, R444
 composition, shell size and (turtle), R1133
 deprivation
 blood flow and, leg (baboon), R30
 regulation of arginine vasotocin in, awake state (cockere), R658
 doubly labeled, energy expenditure by, R823
 excretion
 effect of amiloride on, F400
 endotoxemia and, awake state, F1098
 prostaglandins and, renal denervation, F895
 renal response to vasopressin infusion, H584
 urinary kallikrein activity and, F1082
 flow
 antidiuretic hormone-treated bladder (toad), F845
 vasopressin-induced, polycation inhibition, C729
 intake
 angiotensin II, osmoregulation of, R918
 epinephrine-induced anoxia and, R313
 permeability: see Permeability
 secretion, calcitonin, jejunum, G172
 tracer, pulmonary extraction of, lung temperature and, H1017
 transport
 brain synaptosomes, R306
 kidney (quail), R341
 proximal tubules, model, F860
 unstirred layer, solute transport barriers, jejunum, G727
 Weight
 body
 energy balance and brown fat thermogenesis, pregnancy (hamster), R845
 epinephrine and norepinephrine chronic infusion and, E518
 propylthiouracil effects (hamster), R151
 regulation, brown fat denervation and, R1108
 sevvo-controlled, vasopressin effects on plasma renin activity, F460
 Wiggers lecture, H705

X

Xanthine oxidase, vascular smooth muscle and, H815

Z

Zinc, uptake, hepatocytes, E677
 Zymogen granules, pancreatic, acetaldehyde treatment, G598

Author Index to Volume 2 50

- Abbott, R. E., C853
 Abbott, W. M., H181
 Abe, K., R789, F197
 Abe, Y., F109
 Abercrombie, R. F., C391
 Aboukarsh, N., H82
 Abumrad, N., E248
 Abumrad, N. N., E622
 Abu Romeh, S., F702
 Acheson, K. J., R823
 Adams, T., G260
 Addison, J. L., E435
 Addonizio, V. P., Jr., H366
 Ader, J.-L., F1082
 Adibi, S. A., E615
 Adorante, J. S., C55
 Afring, R. P., E599
 Agarwal, J. B., H778
 Agrawal, R., C495
 Ahrén, B., E212
 Aikawa, T., E523
 Ailabouni, A. H., G824
 Aizawa, T., C95
 Akaishi, M., H778
 Al-Awqati, Q., C165
 Albers, H. E., R708
 Alberti, K. G. M. M., E655
 Albina, J. E., E24
 Alexander, E. A., E1, F115, F690
 Alexander, N., R485
 Alexander, R. W., H755
 Allen, A. M., F753
 Allen, J. C., C536, H313
 Almira, E. C., E402
 Alpern, R. J., F644
 Amano, J., H76
 Amedee, T., C47
 Amidon, G., G161
 Ammon, H. V., G248
 Ammons, W. S., R435
 Amsler, K., C799
 Amundsen, S., G670, H434
 Anastasi, N., R1047
 Anderson, D. F., H1037
 Andresen, M. C., R733
 Andreucci, V. E., F986
 Andrezik, J. A., H231
 Antonetti, A., H1008
 Antoni, F. A., E319
 Aoyama, H., E634
 Appelgren, B. H., R980
 Appleton, C. P., H1071
 Aqel, M. B., C275
 Ardailou, R., F596
 Ardillo, A. F., F986
 Areas, J., E156
 Arendshorst, W. J., F488, F1082
 Armstrong, M. L., H434
 Arnall, D. A., E641
 Arnold, P. E., R1028, F357
 Aronson, P. S., G35
 Arroyo, V., F749
 Arts, T., H255
 Arver, S., R980
 Ashley, S. W., G625
 Ashworth, L., E655
 Assimacopoulos-Jeannet, F., E346
 Astrup, A., E226
 Atkinson, D. E., F1128
 Atlas, S. A., H871, F520
 Ausiello, D. A., C103, C115
 Avison, M. J., F834
 Aviv, A., C939, C948
 Aw, T. Y., G236
 Aynedjian, H. S., F476
 Azpiroz, F., G773
 Azuma, T., H705
 Baba, S., G405
 Babich, M., C642
 Bache, R. J., H474
 Baer, P. G., F58
 Baertschi, P., R823
 Baines, A. D., F674
 Baker, D. G., R815
 Baker, R. D., G448
 Balaban, R. S., F497
 Balasse, E. O., E495
 Baldwin, E. F., R444
 Balint, J. A., G715
 Banerjee, S. P., H725
 Bank, N., F476
 Baracos, V., E702
 Barber, D. L., G374, G385
 Barber, J. D., F895
 Bardenheuer, H., H173
 Barfuss, D. W., F246
 Barham, S. S., C256
 Barnard, R. J., E570
 Barnes, J. L., F315
 Barnes, J. S., F1008
 Barnett, P. A., R875
 Barnett, R., F838
 Barney, C. C., R861
 Barr, D. B., G617
 Barrett, E. J., E686
 Barron, W. M., E352
 Barrowman, J. A., G497
 Bartram, F. R., H736
 Baseman, J. B., C460
 Bass, P., G191
 Bassett, D. J. P., E131
 Bassingthwaite, J. B., H29, H482, H539, H1060
 Bästlein, C., F226
 Batt, E. R., C853
 Battaglia, F. C., E538
 Baud, L., F596
 Baue, A. E., R573
 Bauer, C., C563, C676
 Baum, M., F66
 Baumgartner, A., G830
 Baylis, C., F308, F566
 Bealer, S. L., H221, R18
 Beasley, D., R1034
 Beaufre, B., E269
 Beauwens, R., C729
 Beddoe, A. H., E179
 Beers, E. T., F559
 Beglinger, C., G15
 Belardinelli, L., H769
 Belin, D., C682
 Bell, A. W., E538
 Bell, J. E., C340
 Bell, L. B., R142, R1074
 Bell, P. B., F203
 Bell, P. D., F715
 Bell, R. J., F777
 Benarroch, E. E., R932
 Benevolensky, D. S., H360
 Bengel, H. H., E1, F115, F690
 Bennett, R. A., E435
 Benoit, J. N., G535
 Benos, D. J., C175, C340
 Benyajati, S., R712
 Bereiter, D. A., E18, E69, E76
 Bergen, H., E205
 Berglin, T., G575, G607
 Bergman, R. N., E576
 Bergmann, S. R., H1079
 Berl, T., R1028
 Berridge, K. C., R539
 Berry, C. A., F644
 Berry, L. J., E218
 Berry, S. J., R1039
 Bers, D. M., H654
 Berthoud, H.-R., E331
 Best, P. M., C245
 Bettencourt, J. D., G455
 Beuerlein, G., C486, G806
 Bevan, J. A., H87
 Bevan, R. D., H889
 Bevilacqua, S., E686
 Beyenbach, K. W., R328, R608, R616, R753
 Bhakthavatsalam, P., R83
 Bhalla, R. C., C65, C275
 Biagi, B. A., F261, F267
 Bianchi, J., G461
 Biber, B., G736
 Biber, J., G323
 Bichara, M., F441
 Biden, T. J., C207
 Bielanski, W., G570
 Bielecki, M., R1
 Bier, D. M., E39
 Bigley, R. H., C637
 Bilecki, J., G391, G570
 Bindels, R. J. M., F470
 Bing, O. H. L., H595
 Bittar, K. N., G280, G357
 Black, S., H861
 Blackard, W. G., E148
 Blair, M. L., H443
 Blair-West, J. R., F503
 Blank, J. L., R199
 Blantz, R. C., F169
 Blaustein, A. S., H595
 Block, K. P., E599
 Boberg, U., F967
 Bockman, E. L., H1127
 Bogey, R. A., R65
 Boineau, J. P., H630
 Bomszyk, K., F680, F1046
 Bonduris, D. N., F54
 Bonventre, J. V., C18, F329
 Boockfor, F. R., E163
 Boross, M., F827
 Bortoff, A., C292
 Boshell, B. R., E402
 Bouchard, C., E480, E711
 Boulant, J. A., R625
 Bourdel, G., E377
 Bourgoignie, J. J., F1098
 Bouyssou, T., G302
 Bowen-Kelly, E., E131
 Bower, J. D., F980
 Bowers, R. L., G70
 Boyd, C. A. R., G469
 Boyd, R. D. H., R112, R474
 Boyd, R. M., F58
 Boyer, J. L., G35
 Brace, R. A., R1095
 Brady, A. J., H265, H932
 Braggio, J. T., H231
 Brain, J. D., R728
 Brantl, V., G92
 Brasitus, T. A., G781
 Braun, E. J., R89, R644, R658
 Braun-Werness, J., F151
 Brautbar, N., G369
 Brautigan, D. L., H1030
 Brenner, B. M., F127, F566
 Breslow, M. J., H954
 Briggs, G. M., H731
 Briggs, J., F16
 Brill, R. W., R452
 Brock, T. A., C888, H1086
 Brody, M. J., R1117
 Brokl, O. H., F407
 Brommage, R., E725
 Bronner, F., G561
 Bronson, F. H., R370, R665
 Brooks, D. P., R1007
 Brooks, G. A., E414
 Brooks, W. W., H595
 Brosnan, J. T., F649
 Brown, A. J., H584
 Brown, A. M., H149
 Brown, C. D. A., C676
 Brown, D., C605
 Brown, D. L., R1081
 Brown, M. R., G742
 Brown, P. R., H1030
 Brown, T., H131
 Brown, T. R., C264
 Browning, C., F203
 Brubaker, P. L., E236
 Brugnara, C., C888
 Brumfield, B. A., H240
 Bruner, C. A., H52
 Brunner, M. J., H96
 Buack, S., G191
 Buchan, A. M. J., G374, G385
 Bueno, L., G172
 Buerk, D. G., H202
 Bührle, C., C563
 Buja, L. M., H490
 Bukowiecki, L. J., C880, E607
 Bülow, J., E226
 Burchard, K. W., H1135
 Burckhardt, G., F226, F817
 Burczynski, F., H992
 Burgess, G. M., G280
 Burke, T. J., R1028, F357
 Burkhardt, D., H414, R1021
 Burlingame, S. M., G221, G754
 Burnell, J. M., F302
 Burnett, J. C., Jr., F798
 Burnup, K., G109
 Buse, M. G., E599
 Bushinsky, D. A., F1090
 Busija, D. W., H498
 Butcher, P., G736
 Butler, J. P., E338
 Butterfield, M. I., F1082
 Buu, N. T., F975
 Buzby, G. P., E312
 Cabanac, M., R991
 Caffrey, J. L., H749
 Cala, P. M., C423
 Calamia, J., F176
 Caldwell, M. D., E24
 Calianos, T. A., H490
 Camargo, M. J. F., H871
 Campese, V. M., F924
 Candia, O. A., F850
 Canessa, M., C888
 Canning, J. F., R112
 Cannon, J. K., F1055

- Canty, J. M., Jr., H330
 Cardinal, J., F339
 Carlin, R. D., F40
 Carlson, D. E., H1135
 Carmichael, F. J., G518
 Carmichael, M. S., R831
 Carpenter, J. F., R505, R512
 Carrasquer, G., G511, G639
 Carretero, O. A., C480
 Carroll, R. G., H584, F559
 Carter, J. E., H208
 Cartwright, C. A., G806
 Castell, D. O., G244
 Casto, R., R193
 Castro, G. A., G266
 Caton, D., R385
 Cederberg, C., G309
 Cederblad, A., E736
 Cerbone, A. M., F986
 Cersosimo, E., E248, E622
 Chabot, J.-G., G760
 Chai, S. Y., F753
 Chambert, G., R313
 Champigny, O., E377
 Charlemagne, D., H923
 Charlesworth, M. C., E341
 Charney, A. N., G588
 Chase, H. S., Jr., C841
 Chatelet, F., F386
 Chaudry, I. H., R573
 Chedid, L., C572
 Cheema-Dhadli, S., F605
 Cheli, C. D., C970
 Chelly, J., R633
 Chemla, D., H1008
 Chen, C. B., F605
 Chen, R. Y. Z., F40
 Chen, Y.-H., H443
 Cheng, L., F827
 Cheung, J. Y., C18, F329
 Cheung, L. Y., G625
 Chew, C. S., G814
 Chew, P., G581
 Chi, M. M.-Y., C813
 Chidi, C. C., G824
 Chien, S., F40
 Chilian, W. M., H114
 Chinard, F. P., H539, H1017
 Chiolero, R., E718
 Chisholm, D. J., R411
 Chiueh, C. C., E381
 Cho, D. S., G248
 Chong, C. K., F963
 Chou, C. C., G64
 Chow, S. Y., E464
 Christensen, J., G98
 Christensen, N. J., E226
 Christin, L., E47
 Cianciaruso, B., F986
 Clark, A. F., C821
 Clark, B., G581
 Clark, E. B., H407
 Clark, N. B., R41
 Clay, K. L., F1123
 Claycomb, W. C., H731
 Clemens, M. G., R573
 Clergue, M., H1008
 Cliff, W. H., R608, R616
 Cluzeaud, F., F386
 Coachman, D., F159
 Cobelli, C., E591
 Coe, F. L., R589, F1090
 Coffey, D. S., R1039
 Coffman, T. M., F282
 Cogan, M. G., F22, F710
- Cohen, R. D., F203
 Colavita, P. G., H736
 Cole, T., G679
 Coleridge, H. M., H149, R815
 Colledge, J. C. G., H149, R815
 Colindres, R. E., F322
 Collet, A. J., C880
 Collins, R. C., F308
 Colman, R. W., H366
 Congiu, M., F777
 Conlee, R. K., E641
 Conlon, J. M., G679
 Connett, R. J., R951
 Conte, G., F986
 Conteas, C. N., C430
 Contney, S. J., C547
 Conway, T., G412
 Cook, E., E236
 Cook, J. S., C199
 Cook, P., F850
 Cooney, D. R., G103
 Cooper, K., F834
 Cornish, K. G., H159
 Corring, T., G295
 Corthorn, J., F400
 Côté, C., C828
 Cott, G. R., C222
 Coumans, W. A., H255
 Cousins, R. J., E677
 Cowley, A. W., Jr., F460
 Cox, J. E., R1108
 Cragoe, E. J., Jr., C165, C720, C744, F539
 Craig, D. M., F54
 Crist, J., G336
 Crofton, J. T., R1007
 Crone, C., H539
 Crowley, W. F., Jr., E338
 Croxatto, H. R., F400
 Cua, W. O., H1017
 Cunningham, E. M. S., E583
 Curran-Everett, D., R868
 Cushner, H. M., F315
 Cusolito, S., G691
- Dahms, V., G287
 Dale, P. S., R1099
 Dallie, S., F189
 Dallman, P. R., E414
 Damais, C., C572
 Danforth, E., Jr., E47
 Daniel, E. E., C495, G21
 Daniel, T. L., R56
 Dantzer, W. H., R712, F407
 Daugherty, A., H1079
 Davenne, D., R96
 Davidson, W. R., Jr., H725
 Davis, D. W., E169
 Davis, J. O., H189
 Davis, M. J., H291
 Davis, T. A., E137
 Dawson, C. A., H806
 Dawson, D. C., F483
 Debas, H. T., G127, G665
 DeBlasi, A., E583
 Decker, R. S., C589
 DeFronzo, R. A., E407, E686, E718
 DeHaan, R. L., H453
 De Hemptinne, A., C748
 De Jong, A. J., G391
 DeLisi, C., R1123
 De Lisle, R. C., G489
 DeLuca, H. F., E35, E725
 DeMartino, G. N., C821
- Demers, L. M., C932
 DeMorrow, J. M., G598
 Denton, D. A., R1052
 Desautels, M., R167
 Desjardins, C., R199, R665
 Desjeux, J.-F., G92
 Després, J.-P., E480
 Dettman, R., H992
 DeVos, W., G28
 Dharmasathaphorn, K., C486, G553, G806
 Diamant, N. E., G501
 Diamond, P., E144
 DiBona, G. F., F294, F949, F999
 Dietschy, J. M., G727
 Dillmann, W. H., E558
 Di Minno, G., F986
 Dinarello, C. A., R96
 Di Nicolantonio, R., R898
 DiPette, D., E381
 DiSalvo, J., C406
 Dixon, T. E., F159
 Dobson, G. P., R71
 Dodds, W. J., G50, G227
 Donowitz, M., G691
 Dormer, K. J., H231
 Dorsett, J. A., G60
 Douglas, J. G., F348
 Doursout, M.-F., R633
 Dousa, T. P., F151
 Downey, H. F., H579
 Drangova, R., F674
 Dregelid, E., G670
 Dressman, J., G161
 Drucker, W. R., R951
 Druke, T., E373
 Duane, W. C., G275
 Dubick, M. A., G598
 Dubois, A., G244
 Dudeja, P. K., G781
 Duffey, M. E., G185
 Duhaime, J., F975
 Duling, B. R., H705
 Dulos, R. A., R167
 Dummett, J. L., H407
 Dumontier, A.-M., G92
 Dunckel, P., E55
 Dunham, P., C688
 Dunham, P. B., C578
 Dunn, M. J., F348, F488, F802
 Dunson, W. A., R1133
 Durham, J. H., C609
 Dussault, J., E711
 Dwyer, A., G135
 Dzau, V. J., E55
- Eastham, C. L., H114
 Ebina, K., H389
 Eckhardt, L., G698
 Edwards, C. I. W., E669
 Eeckhout, C., G70
 Eggena, P., C453, E31
 Ehrlich, Y. H., H550
 Eide, G. E., G670
 Eikenburg, B. E., G709
 Eisner, G. M., F949, F1033
 Elashoff, J., G161, G581
 Eldridge, F. L., R721
 Ellingsen, D., G109
 Ellis, S. J., F845
 Ellison, D. H., F885
 El-Sharkawy, T. Y., G501
 El-Tayeb, K., E393
 El-Tayeb, K. M. A., E236
 Elzinga, G., H961
- Emmanouel, D. S., F144
 Engel, B. T., R36
 Engeland, W. C., E87
 Enger, M. D., C256
 Enyeart, J. J., C95
 Epstein, A. N., R250, R313
 Epstein, M., F619
 Erickson, A. L., R1028
 Erickson, J. L., H503
 Erlanger, B. F., C165
 Erlij, D., C629
 Ervin, M. G., E253, E564
 Evans, W. S., E650
 Eveloff, J. L., F176
 Ewing, L. L., R1039
 Ewton, D. Z., C771
- Faber, J. J., H1037, R459
 Fabisiak, J. P., C871
 Falconer, J., R427
 Falen, S. L., C771
 Fan, F.-C., F40
 Fanburg, B. L., C761, C766, H595
 Fanestil, D. D., F573
 Faraci, F. M., R499
 Farber, N. E., H372
 Farley, R. A., C896
 Farnsworth, S., H265
 Farnsworth, S. P., H932
 Faugere, M.-C., E35
 Faulkner, J. A., C474, C828
 Favre, L., F790
 Fay, F. S., C779
 Fedde, M. R., R499
 Federico, S., F986
 Feigl, E. O., H645
 Fein, F. S., H108
 Felber, J.-P., E718
 Felder, R. A., F1033
 Felder, R. B., R580
 Feldman, M., G85
 Fenstermacher, D. K., G155
 Fenwick, J. C., R161
 Ferguson, A. G., C589
 Ferner, R. E., E655
 Ferrannini, E., E686
 Ferrer, P. N., H291
 Ferriola, P. C., G185
 Féry, F., E495
 Fesser, W., C228
 Feuerstein, G., H1093
 Fidelman, M. L., C978
 Field, M., C646
 Fields, L. E., H1079
 Fievet, B., R319
 Figdor, R., F753
 Figlewicz, D. P., R851, R856
 Fildes, R. D., F949
 Fill, M., C245
 Fine, L. G., F539
 Fink, G. D., H52
 Firrell, J. C., H908
 Fisher, C. A., H366
 Fisher, D. A., E253, E564
 Fitzpatrick, L. R., G709
 Flamm, M., C853
 Fleming, J. T., H284
 Flik, G., R161
 Florini, J. R., C771
 Flynn, F. W., R539
 Foley, J. E., E100
 Fondacaro, J. D., G1
 Foreman, R. D., H231
 Forker, E. L., G648

AUTHOR INDEX TO VOLUME 250

- Forte, J. G., G76, G455
 Foster, E. S., C486, G781
 Foster, K. A., H1
 Fournier, R., E156
 Fournier, R. D., E381
 Fox, J. E. T., G21
 Fozzard, H. A., C646
 Frank, J. S., H265
 Fraser, C. L., R306
 Frater, R. W. M., H620
 Frawley, L. S., E103
 Freedman, M. R., R595
 Freeman, R. H., H189
 Freerksen, D. L., C713
 Frenkel, E., R875
 Fried, R. C., E312
 Fried, T. A., F374, F901, F1119
 Friedman, M. E., H699
 Frist, W. H., H208
 Fronek, K., R485
 Fujii, M., G405
 Fujioka, S., F109
 Fujita, T., R1014
 Fukagawa, N. K., E13
 Fukui, K., F109
 Furler, S. M., R411
 Furukawa, K., H378
 Furuya, M., F210
 Furuya, W., C283
- Gabbay, S., H620
 Gaftner, U., F396
 Gall, D. G., G427
 Galla, J. H., F54
 Gallaher, D., G420
 Galli, S. J., H879
 Galvas, P., C406
 Gann, D. S., E18, E69, E76, H1135
 Ganz, P., H755
 Garcia, A. R., E402
 Gardner, T., F159
 Garg, L. C., F1055
 Gargiulo, A., F986
 Garno, J., F396
 Garrick, T., G191
 Garrote, F. J., E545
 Garvin, L., H131
 Gatley, R., H213
 Gattone, V. H., II, F189, F991
 Gaudio, K. M., F834
 Gaugl, J. F., H749
 Gauthier, C., E393
 Gavin, J. R., III, F1073
 Gavin, M. L., R151
 Gaya, J., F749
 Geer, P. G., R221, R946
 Geertsens, J. A. M., F470
 Gehrig, J. J., Jr., F566
 Geisoff, H., G165
 Gelfand, R. A., E407
 Geliebter, A., R549
 Geloën, A., C880
 Gemba, M., F785
 Geniteau, M., C506
 Geokas, M. C., G598
 Gerard, E. M., G469
 Gerber, J. G., F1008
 Gerich, J., E269
 Gerritsen, M. E., C970
 Gersten, L., C629
 Gerthoffer, W. T., C597
 Gewirtz, H., H1030
 Gex-Fabry, M., R1123
 Gibbs, C. L., H998
- Gidda, J., G336
 Gilbert, R. D., R1099
 Gilbert, R. J., G50
 Gimbrone, M. A., Jr., C888, H755, H1086
 Givens, G., E457
 Glass, L., R902
 Glazier, J. D., R474
 Glickman, M. G., E407
 Glorioso, N., H871
 Go, V. L. W., R104
 Godt, R. E., C807
 Goetz, K. L., R221, R638, R946
 Goldberg, A. L., E702
 Goldberg, I. J., E265
 Goldfarb, D., F539
 Goldman, P., R260
 Goldman, S., H1071
 Goldspink, D. F., E114
 Goldstein, D. L., R89
 Goldstein, L., R984
 Goldwasser, P., F838, F1123
 Gonyea, W. J., R1
 Goodman, S. R., C347
 Gordon, C. J., H320
 Gordon, E. E., C932
 Gordon, J. A., F991
 Gore, R. W., H291
 Gores, G. J., G344, G350
 Goresky, C. A., H539
 Gorman, M. W., H482
 Gorski, J., E441, E449
 Goto, K., H693
 Goto, Y., H151, H167
 Gottschalk, C. W., F895
 Goyal, R. K., G336
 Graber, M. L., F159
 Granata, A. R., R932
 Granger, D. N., G316, G497, G535, G749
 Granger, J. P., F32, F425, F798, F917
 Grashuis, J. L., G165
 Grasl, M., F235
 Grassino, A., R902
 Grattan, M. T., H276, H558
 Graves, C., R902
 Gray, D. A., R918
 Greenberg, R. E., E702
 Greenberg, S., E231
 Greene, A. S., H96
 Greenfield, J. C., Jr., H968
 Greenway, C. V., H992
 Greenwood, M. R. C., R837
 Greer, M. A., E629
 Grendell, J. H., G856
 Grill, H. J., R539
 Grinditch, G. K., E570
 Grinstein, S., C283
 Grippo, R. S., F488
 Grone, H.-J., F488
 Gross, G. J., H372
 Groszmann, R. J., G205
 Grötzing, U., G15
 Gu, Y., G161
 Guggino, W. B., F430
 Gunn, R. B., C955
 Gunst, S. J., C146
 Gunter-Smith, P. J., G540
 Guppy, M., R175
 Guth, P. H., G660, G794
 Guterman, D. D., H114
 Guyenet, P. G., R910, R1081
 Guyton, A. C., F559
 Gwartz, P. A., H1117
- Gyr, K., G15
- Haas, J. A., F425
 Habeeb, O., E564
 Hackenthal, E., C563
 Haddad, G. G., H796
 Haddox, M. K., G709
 Hafezi, A., F539
 Hagan, M., C314
 Hagedorn, H. H., R328
 Hageman, G. R., H43
 Hajduczk, G., R868
 Hall, D. E., F649
 Hall, J. E., R960, F32, F907, F917
 Hall, K. E., G501
 Hall, W. G., R807
 Hallman, E., F364
 Halperin, M. L., F605
 Halter, F., G830
 Hamilton, G. D., R370
 Hamilton, J. M., R383, R389
 Hammett, H. T., R377
 Hammerman, M. R., F419, F451, F659, F1073
 Hand, S. C., R505, R512
 Handler, J. S., C138, C314, C517
 Hanley, D. F., H7
 Hanley, F. L., H276, H558
 Hansen, B., E107
 Hansen, C. A., H351
 Hansen, I., E269
 Hardage, M., H736
 Harder, D., C557
 Harding, R., H213
 Hardman, H. F., H372
 Hardwick, D. H., H550
 Hargrave, B. Y., E422
 Harper, S. L., G316
 Harrington, W. W., F895
 Harris, J. P., R493
 Harris, K., H213
 Harris, R. B. S., R276
 Hart, C. E., C391
 Hart, S. F., E218
 Hart, T. J., R65
 Harty, G. J., R104
 Hartzell, C. R., C713
 Hashiguchi, R., H672
 Hasson, J. E., H181
 Hatt, P. Y., H1008
 Haukaas, S., G670
 Hautefeuille, M., G92
 Hawkins, R. A., E169
 Hayashi, H., R573
 Hayashi, M., F144
 Hayashi, Y., F210
 Haymond, M., E269
 Haymond, M. W., E695
 Healy, D. P., F573
 Heath, M. E., R377
 Heatwole, H., R1133
 Hebert, S. C., C907, C920, F127
 Heckman, J. L., H131
 Hedeskov, C. J., E107
 Heerd, P. M., F58
 Heintze, K., C617
 Heistad, D. D., H434
 Heitkemper, M. M., G546
 Helfant, R. H., H778
 Henderson, R. M., F203
 Henderson, S. A., E414
 Henriksson, J., C834
 Hensley, C. B., C430
 Herman, G., C704
- Hermesmeier, K., C535, C557
 Herndon, D. N., E306
 Herring, K., F159
 Hess, D. S., H474
 Hess, M. E., H761
 Hester, S. E., G742
 Higashi, H., H226
 Higuchi, S., H226
 Hiken, J. F., C84
 Hill, D. A., H630
 Hill, G. L., E179
 Hill, R. D., R175
 Himeno, S., G398
 Himmels-Hagen, J., E274
 Hinghofer-Szalkay, H., H68, H342
 Hinkle, P. M., C95
 Hintze, T. H., H76
 Hiramori, K., H151
 Hirose, T., E523
 Hirschowitz, B. I., G361, G484
 Hitier, Y., E377
 Ho, K. Y., E650
 Hochachka, P. W., R71, R175, R452
 Hoeffler, J. P., E103
 Hoening, M., E502
 Hoffman, J. I. E., H276, H558
 Hoffmann, E. K., C688
 Hogan, S., E274
 Hogan, W. J., G227
 Hollander, D., G469
 Hollands, M. J., G118
 Holloway, R. R., F1033
 Holm-Rutli, L., G575
 Holstein, B., G309
 Holtermüller, K. H., G727
 Honrath, U., F963
 Hood, D. A., E441, E449
 Hopfer, U., G489
 Hopp, L., C939, C948
 Hoppel, C. L., H741
 Hori, M., H509, H620
 Horie, N., R691
 Horst, R. L., G412
 Horton, C., F619
 Horvath, P. J., G185
 Horwitz, B. A., R595
 Hosomi, H., H944, R973
 Hostetter, T. H., F613
 Houlihan, M. J., C413
 House, S. D., H828, H838
 Howard, T. L., E137
 Howland, R. J., E669
 Howlin, K. J., F644
 Hoxworth, B., E248
 Hoxworth, B. T., E622
 Hu, N., H407
 Huf, E. G., F1107
 Huff, M. J., R573
 Hull, S. S., Jr., H974
 Humes, H. D., F579, F720
 Hunneman, D. H., H853
 Huott, P., G806
 Husted, R. F., C214
 Hutchinson, H., H1
 Hutter, A., C563
 Hwa, J. J., H87
 Hwang, K. H., F1098
 Hyman, A. L., H1109
- Ibata, Y., H378
 Ideker, R. E., H530, H736
 Igarashi, Y., H151, H167, H685
 Iizuka, S., F781

- Ijichi, H., H378
 Iles, R. A., F203
 Imai, M., R333, F210
 Imaizumi, T., H226
 Imamura, K., G698
 Inagami, T., H144
 Ingermann, R. L., C637
 Inokuchi, A., R120
 Inou, T., H114
 Inoue, M., H509, R789
 Insel, P. A., E583
 In't Veld, P. A., C729
 Irion, G. L., H137
 Isaacks, R., R260
 Isaksson, O. G. P., E367
 Iseki, K., F924
 Isenberg, G., H769
 Isgaard, J., E367
 Ishinami, C., C299
 Isoyama, S., H672
 Israel, Y., G518
 Ito, H., H509
 Ito, N., H226
 Itoh, Z., G227
 Ives, H. E., F633
 Iwabuchi, T., H389
 Iwai, K., H509
 Iwao, H., F109

 Jacklet, J. W., R5
 Jackman, R. W., H879
 Jackson, E. K., H144
 Jackson, M. J., C191
 Jackson, R. H., F322
 Jackson, W. F., H1102
 Jacob, A. I., F1098
 Jacob, R., C442, E407, E686
 Jacobson, K. L., C642
 Jacques, J. A., E551
 Jahoor, F., C306
 Jakobs, K. H., H846
 Jalife, J., H397, H567
 Jamison, R. L., F566
 Jan, K.-M., F40
 Janjic, D., C207
 Jansen, J. B. M. J., G391
 Janssens, J., G149
 Jansson, J.-O., E367
 Jarett, L., E148
 Jasmin, G., H22
 Jaspán, J. B., E428
 Jeanrenaud, B., E346, E662
 Jeffries, G. H., G135
 Jeng, H. J., H796
 Jenkins, A. B., R411
 Jennings, G., R845
 Jentsch, T. J., C124
 Jéquier, E., R823
 Jequier, E., E47, E718
 Jiménez, W., F749
 Jo, O. D., F942
 Johnson, G. V. W., C713
 Johnson, L. R., G633, G709
 Johnson, M. D., R770
 Johnson, M. L., E486, E650
 Johnson, P. C., H828, H838
 Jones, A. W., C76, C540
 Jones, C. E., H579, H1117
 Jones, D. P., C374, C384, C663
 Jones, S. B., R358, R892
 Jose, P. A., F949, F1033
 Josephson, M. E., H366
 Joshi, S., E457
 Joshua, I. G., H284
 Jourdan, M., R991

 Joyce, E. H., H889
 Judd, A. M., E288, E731
 Jung, C. Y., C115
 Jungas, R. L., F605
 Juste, C., G295

 Kachadorian, W. A., F845
 Kaczorowski, G. J., H699
 Kadowitz, P. J., H1109
 Kahn, A. M., C536, H313
 Kahn, T., F695
 Kaiser, L., H974
 Kakita, T., E121
 Kalra, P. S., R365
 Kamada, T., H509
 Kampine, J. P., R142, R1074
 Kaplan, S. A., E570
 Kaplowitz, N., G236
 Kapocs, G., E319
 Karl, I. E., E137
 Kasbekar, D. K., G765
 Kathalia, S., F396
 Katovich, M. J., R861
 Katsuda, S., H944
 Katsume, H., H378
 Katz, A., C834
 Katz, A. I., F144
 Katz, G. M., H699
 Katz, S., H861
 Kauffman, F. C., G800
 Kauffman, G. L., Jr., G794
 Kazumi, T., E325
 Keef, K. D., H524
 Keeler, R., F511
 Keil, L. C., R287
 Keith, L. D., E629
 Kelleher, J. K., C191, E296
 Keller, S. K., C124
 Keller-Wood, M., R396
 Kennebaugh, J. M., E538
 Kennedy, F. G., C374, C384
 Kent, R. L., H1
 Kerber, R. E., H1022
 Kern, M. K., G227
 Kerzner, B., G824
 Khalil, F., C939, C948
 Khawaja, S., G581
 Khorram, O., R803
 Kikeri, D., F1098
 Kiley, J. P., R721
 Kim, C., R260
 Kim, D., C32
 Kimmich, G. A., C418
 Kimura, B., R396
 Kimura, S., H693
 Kimura, T., G698, R789
 King, P. D., G648
 King, R. J., C460
 Kinne, R., C799
 Kino, M., C939, C948
 Kinsella, J., F827
 Kira, Y., C932
 Kirchner, K. A., F980
 Kitabatake, A., H509
 Kitakaze, M., H509
 Klabunde, R. E., H62
 Klahr, S., E137, F136
 Kleiman, T. R., C165
 Kline, R. L., R567
 Klip, A., C720
 Klocke, F. J., H330
 Klotman, P. E., F282
 Knapka, J. J., E381
 Knight, D. R., H546
 Knight, G. S., E179

 Knopp, L. C., F77
 Knox, F. G., F425
 Ko, K. R., H304
 Koban, M., R211
 Koch, K. L., G135
 Koch, M., C124
 Koehler, R. C., H954
 Koelz, H. R., G830
 Koeppe, B. M., F70
 Koerker, D. J., E198
 Kofod, H., E107
 Koide, Y., C299
 Koike, K., E288
 Koiwa, Y., H672
 Kolar, Z., R161
 Koldovsky, O., G850
 Konturek, S. J., G391, G570
 Kopin, I. J., E381
 Kopp, U. C., F999
 Korc, M., G850
 Koretsune, Y., H509
 Kornecki, E., H550
 Kort, A. A., H786
 Korthuis, R. J., G535
 Koseki, C., F210
 Kotsanas, G., H998
 Kotsias, B. A., C40
 Kovarik, M. F., R892
 Koyama, S., H944, R973
 Kozlowski, T. R., C430
 Kraegen, E. W., R411
 Kraig, R. P., R348
 Kramer, R. E., E259
 Krams, R., H330
 Krasney, J. A., R868
 Kreiger, E. M., H662
 Krier, J., G260
 Krilowicz, B. L., C264
 Kristensen, C. G., R589
 Krivanek, P., F235
 Krohn, K. A., H1060
 Krsek, J. A., C84
 Krueger, J. M., R96
 Kubo, K., E100
 Kuchel, O., F975
 Kudrow, A., C896
 Kuikka, J., H29
 Kullman, D., R532
 Kunau, R. T., Jr., F97
 Kunze, D. L., H866
 Kuribayashi, T., H378
 Kurokawa, K., F770
 Kurokawa, M., G398
 Kuroshima, T., G398
 Kurtin, P., G588
 Kurtz, A., C563, C676
 Kurtz, I., F497
 Kusano, E., F151
 Kushmerick, M. J., C264
 Kuzon, B., H213
 Kvietys, P. R., G316
 Kvist, H., E736

 Lacour, B., E373
 Lacy, W., E248
 Lacy, W. W., E622
 Lai, T. L., H796
 Lakatta, E. G., H786
 Lakshmanan, J., E386
 Lamers, C. B., G391
 Landis, S. C., H755
 Lang, C. H., H240
 Lang, F., F953
 Lang, M. A., C138
 Langer, G. A., H247

 Langhans, W., R1003
 Lapointe, J.-Y., F339
 Laporta, D., R902
 Laprade, R., F339
 Laragh, J. H., H871, F520
 LaRusso, N. F., G344, G350
 Laskiewicz, J., G570
 Lassen, N. A., H539
 Lassignal, N. L., C792
 Lau, K., F396
 Laughton, W. B., E331
 Laurence, B. M., F777
 Lawrence, J. C., Jr., C84, C365
 Lawton, M. T., H195
 Leadley, R. J., Jr., R946
 Leaf, A., C18
 Leake, R. D., E253, E564
 Lebenthal, E., G103, G200, G594
 LeBlanc, J., E144
 Lecarpentier, Y., H1008
 Ledbetter, M. L. S., C306
 Ledingham, J. M., F551
 Lee, D. B. N., G369
 Lee, J.-D., H464
 Lee, P. C., G103, G200, G594
 Lee, R. W., H1071
 Lee, S.-L., C761, C766
 Lee, T. M., R831
 Leeman, B., E265
 LeFurgey, A., C442
 Legrand-Defretin, V., G295
 Leibowitz, S. F., R83
 Leikauf, G. D., F47
 Lekven, J., G670
 Lelievre, L. G., H923
 Lenox, R. H., H550
 Lenz, H. J., G742
 Leong, D. A., E650
 Leopold, J., H755
 Lermmark, A., E107
 Lesch, M., C589
 Leski, M. J., C312
 Letarte, J., G177
 Leung, F. W., G794
 Leung, P. C. K., E205
 Leung, Y. K., G594
 Leusen, I., H711, C748
 Levie, F., F441
 Levin, M., H29
 Levi-Setti, R., F1090
 Levitsky, D. O., H360
 Lew, W. Y. W., R465
 Liang, C.-S., H725
 Lickley, H. L. A., E236, E393
 Lieberman, M., C442
 Liedtke, A. J., H606
 Lifschitz, M. D., F525
 Liggins, G. C., R175
 Light, A. M., G9
 Lindahl, A., E367
 Lindblad, L. E., H519
 Lindheimer, M. D., E352, R589
 Linehan, J. H., H806
 Lingard, J. M., G140
 Link, J. M., H1060
 Lipowsky, H. H., H908
 Lipton, J. M., R803
 Lister, G., H806
 L'Italien, G. L., H181
 Little, S. E., H1060
 Liu, C., F302
 Lobaugh, L. A., C442
 Lobo, M. V., E125
 Loeffler, R. L., G248
 Login, I. S., E731

- Logsdon, C. D., G440
 Logue, P. J., C578
 Lohmeier, T. E., H584
 Lombard, J. H., C547, H761
 Longhurst, J. C., R465
 Longo, L. D., R1099
 Lopaschuk, G. D., H351
 López-Novoa, J. M., E545
 Lora-Vilchis, M. C., R313
 Lorden, J. F., R1108
 Lorente, P., H923
 Lorenz, R. R., H519
 Lotshaw, D. P., R5
 Loubatières-Mariani, M. M., G15
 Louie, D. S., G252
 Louis, C., R991
 Loup, R., F790
 Loutzenhiser, R., F619
 Low, P. A., E94
 Lowry, M., F649
 Lowry, O. H., C813
 Lubin, M., C319
 Ludbrook, J., H426
 Luke, R. G., F54
 Lumlertgul, D., F357
 Lund, D. D., H1022
 Lupien, J., E607
 Lutherer, L. O., R418
 Luxon, B. A., G648
 Lynch, P. R., H131
- Ma, C. L., C453
 Maack, T., H871, F520
 Macey, R. L., C55
 MacGregor, L. C., E502
 Machen, T. E., G524
 MacLeod, R. M., E288, E731
 Madsen, J., E226
 Madsen, K. M., F1
 Maggi, C. A., H121, R926
 Maginniss, L. A., R298
 Magliola, L., C540
 Magun, B. E., G850
 Maitra, S. R., C480
 Maixent, J. M., H923
 Major, T. C., H612
 Majumdar, A. P., G598
 Makara, G. B., E319
 Makhlof, G. M., G280, G357
 Makowski, E. L., E538
 Malagelada, J. R., G773
 Malinowski, R. L., G788
 Mallet, R. T., C191
 Malluche, H. H., E35
 Malo, C., G177
 Malvin, R. L., E551, R1034
 Manabe, R., F781
 Mandel, K. G., C486, G806
 Mandel, L. J., C423, C744
 Manders, W. T., H546
 Mangiapane, M. L., R1117
 Mangiarua, E. L., H889
 Mangino, M. J., G64
 Mann, J. F. E., H846
 Mans, A. M., E169
 Manzini, S., H121
 Marchand, G. R., F256
 Marchington, D., E362
 Marcotte, M., E480
 Marcum, J. A., H879
 Marcus, M. L., H114
 Maren, T. H., F288
 Marfurt, C. F., F189
 Marino, R., F483
 Marion, D. N., F520
- Marker, J. C., E641
 Marotte, F., H333
 Marsh, B. D., E576
 Marsh, D. J., E576, F364
 Marshall, W. S., R227
 Martin, C. J., F980
 Martin, G. V., H1071
 Martin, H. M., C460
 Martin, J. L., H1008
 Martin, K. J., F27
 Martin, R. J., R276
 Martin, S. E., H1127
 Martinez-Pardo, A., F749
 Martner, J., G736
 Martucci, G. F., F986
 Marusic, E. T., E125
 Mason, J., F1024
 Mason, P. W., R383, R389
 Mason, R. J., C222
 Mass, H. J., H1117
 Massaro, D., R51, R783
 Massaro, G. D., R51, R783
 Massry, S. G., F924
 Mastrofrancesco, B., E24
 Mates, R. E., H330
 Mathews, C. H. E., E725
 Mathien, G. M., H1050
 Matrisian, L. M., G850
 Matschinsky, F. M., E502
 Matsuda, J., R65
 Matsuguchi, H., H226
 Matsui, K., R789
 Matsumoto, I., E523
 Matsumura, T., G800
 Matsumura, Y., F811
 Matthews, D. E., E39
 Matthews, J. B., G118
 Mauduit, P., C704
 May, D., G252
 Mayer, E. A., G581
 Mayer-Gostan, N., R161
 McAndrews, K., R868
 McCabe, R. D., G44, G432
 McCall, R. B., R1065
 McCann, S. M., R803
 McCarthy, L., C738
 McClung, H. J., G824
 McClure, P. A., R699
 McConkey, C. L., Jr., F27
 McCormick, C. I., R875
 McCoy, R. N., F901, F1119
 McDonough, A. A., C430
 McDonough, K. H., H240
 McElroy, J. F., R383, R389
 McHale, A. P., G275
 McHugh, P. R., R764
 McKaigney, J. P., G518
 McKee, N., H213
 McKenney, J. B., H879
 McKinley, C. J., R207
 McKinley, M. J., R1052
 McMahon, E. G., C468, C540
 McNamara, E. R., F115, F690
 McNamara, M. K., C26
 McNeill, J. H., H600, H861
 McRoberts, J. A., C486, G806
 Mearin, F., G773
 Mechan, P. J., F777
 Megerman, J., H181
 Meier, C. F., Jr., H731
 Meier, P. J., G35
 Meisner, K. D., C171
 Melcion, C., C506
 Melendez, R. L., G665
 Meli, A., H121, R926
- Mellas, J., F451
 Meloche, R., R902
 Mendelowitz, D., R1047
 Mendelsohn, F. A. O., R898, F753
 Mennen, A., H954
 Mercer, P. F., R567
 Mercier, O., F441
 Mercier, R. J., H778
 Meren, H., G800
 Merrill, D. C., F460
 Merrill, G. F., H579
 Meschia, G., E538
 Messner, G., F953
 Meydrech, E. F., H584
 Meyer, J. H., G161
 Meyer, R. A., C264
 Michelini, L. C., H662
 Mickle, D. A. G., H213
 Mikhail, N., F539
 Miki, K., R868
 Mikulecky, D. C., C978, F1107
 Milanick, M. A., C955
 Miller, A. G., F302
 Miller, C. B., H630
 Miller, D. L., G412
 Miller, F. N., H284
 Miller, L. J., G344, G350
 Miller, P., G252
 Miller, V. M., R77
 Miller, W. L., R77
 Miller, W. P., H606
 Miller-Green, B., H108
 Mills, E., R188
 Mills, J. W., C319
 Minaker, K. L., E13
 Minna, J., R875
 Mircheff, A. K., C430
 Mironneau, C., C47
 Mironneau, J., C47
 Mirro, M. J., H1022
 Mitchell, J. H., R1
 Miwa, T., R341
 Mizelle, H. L., F907
 Mizgala, C. L., F590
 Moe, K. E., R250
 Mohrmann, I., G323
 Mohrmann, M., G323
 Mok, L. L. S., R41
 Mollard, P., C47
 Mondon, C. E., E530
 Montani, J.-P., F907
 Montrose, M. H., C418
 Moody, A. J., E545
 Moore, L. C., F1024
 Moore, W. M. O., R474
 Moore-Ede, M. C., R737
 Moradeshagi, P., F539
 Moran, A., C314
 Moran, T. H., R764
 Moreland, R. S., H612
 Morgan, H. E., C932
 Morgan, R. G. H., G9
 Morii, S., H304
 Morikawa, T., E523
 Morimoto, A., R553, R560, R776
 Morin, L. P., R151
 Morishita, T., G660
 Morita, H., H944
 Morrison-Plummer, J., C460
 Morrissey, J., F136
 Morrissey, J. J., E475, F1073
 Morton, A. J., E114
 Moseley, R. H., G35
 Moser, M., H68
- Moss, N. G., F895
 Most, A. S., H1030
 Motais, R., R319
 Mottino, G., H265
 Motulsky, H. J., E583
 Mouas, C., H923
 Muchnik, S., C40
 Müller, F. B., H871
 Muller, J., C138, F845
 Munch, P. A., H149
 Mundy, C. A., F169
 Muntz, K. H., H490
 Murakami, N., R553, R560, R776
 Murayama, N., F151
 Murer, H., G323
 Murphy, E., C423, C442
 Murphy, R. A., C861
 Mutz, B. F., F476
 Myers, M. A., F516
- Nadeau, A., E711
 Nadel, J. A., F47
 Nadler, S. P., F127
 Nagel, W., C609
 Nair, P. K., H202
 Nakabayashi, T., E428
 Nakagawa, Y., R589
 Nakajima, M., F785
 Nakamaru, M., H144
 Nakamura, K. T., F294
 Nakamura, M., H226
 Nakamura, R., F144
 Nakamura, T., G405
 Nakano, K., E243, E470
 Nakano, S., F785
 Nakatani, T., E634
 Narkates, A. J., R532
 Nasjletti, A., F58
 Natarajan, K., G412
 Nathan, H. J., H645
 Nathan, R. D., R325
 Navran, S. S., C536
 Nayler, R. A., C325
 Needleman, P., R221
 Neeley, W. E., E558
 Neely, B. H., H43
 Neely, J. R., H351
 Negulescu, P. A., G524
 Nekvasil, N. P., R519, R526
 Nellis, S. H., H606
 Nelson, J. F., F503
 Nerdum, T., R815
 Nett, T. M., E282
 Neuwelt, E. A., R875
 Neuwirth, R., F1123
 Newell, J. B., H208
 Newman, B. M., G103
 Ngai, A. C., H304
 Nicholls, D. G., C228
 Nicoll, C. S., E231
 Niebauer, M. J., H159
 Niederau, C., G856
 Niederau, M., G856
 Nies, A. S., F1008
 Nilsson, A., E367
 Nishida, Y., H944
 Nishimura, H., R333, R341
 Nissen, S., E695
 Nobiling, R., C563
 Nord, E. P., F539
 Nosek, T. M., C807
 Nushiro, N., F197
 Nylander, O., G607
- Oates, P. S., G9

- Obejero Paz, C. A., C40
 Obrink, K. J., G607
 Ochoa, G. T., C896
 O'Dea, L. St. L., E338
 Odell, W. D., E121
 O'Donnell, M. P., H16
 Ogawa, M., R333
 O'Grady, J. P., R459
 Oh, C., E470
 Ohhashi, T., H705
 Ohki, A., G405
 Ohnuma, N., F210
 Ohyama, T., H672
 Oka, T., G405
 Okabayashi, Y., G405
 Okahara, T., F109
 Okamoto, S., E35
 Olajos, M., H1071
 Olbricht, C. J., F1055
 Olsen, W. A., G788
 Olson, C., H407
 Olson, K. R., R519, R526, R532
 Olsson, R. A., H482, H1030
 Olszowka, A. J., R298
 Omata, K., F197
 Ono, T., C299, R560, R776
 Okhtens, M., G236
 Oomura, Y., R120
 Oosawa, Y., C361
 Oparil, S., H82, R532
 Opgenorth, T. J., F798
 Orcl, L., C605, C682
 O'Rourke, B., H1
 Orrego, H., G518
 Osborn, J. L., H195
 Osborne, D. F., E137
 Osgood, R. W., F901, F1119
 Ota, K., R789, R1007
 Otsuki, M., G405
 Ottenweller, J. E., R151
 Overn, S. P., H1117
 Owen, N. E., C584
 Owens, J. A., R427
 Owyang, C., G252
 Ozawa, Y., F811
- Pacini, G., E591
 Paillard, M., F441
 Pairet, M., G302
 Palacios, I., H208
 Palmer, J. E., R837
 Palmer, J. M., G266
 Palmer, J. W., H741
 Palmer, L. G., F273, F379
 Palmer, M. C., G617
 Pandian, N. G., H1022
 Pandol, S. J., G553
 Pannain, M., F986
 Pansu, D., G561
 Pappas, T., G127
 Pappas, T. N., G665
 Paquette, T., E186, E198
 Paquette, T. L., E212
 Paradiso, A. M., G524
 Parant, F., C572
 Parant, M., C572
 Parekh, N., H284
 Park, D. H., R932
 Park, J., G686
 Park, R. G., R1052
 Parkhurst, D. F., R699
 Parks, C. M., H1037
 Parks, D. A., G749
 Parmley, W. W., H22
 Pastoriza-Munoz, E., F159
- Patel, K. P., R567
 Patel, T. B., E82
 Patrilli, J., H464
 Pattison, S. E., E677
 Paul, H. S., E615
 Paul, I., E265
 Paul, R. J., C406, C468
 Paulin, J. M., F551
 Paydarfar, D., R721
 Pearce, F. J., R951
 Pecoraro, C., F986
 Pelletier, G., G760
 Pénicaud, L., E662
 Pennell, J. P., F1098
 Perchellet, E., G788
 Percy, W. H., G98
 Perdue, M. H., G427
 Perez, F., F400
 Perez, J., F596
 Perlman, D. F., R984
 Perrone, R. D., E1
 Person, R. J., H231
 Persson, A. E. G., F967
 Peters, T. L., G149
 Petersen, K.-U., C617
 Pettinger, W. A., F103
 Petzel, D. H., R328, R608
 Pfeilschifter, J., C563, C676
 Phifer, C. B., R807
 Phillips, M. L., R193, R396
 Phromphetcharat, V., E457
 Piascik, M. T., C642
 Pierce, G. N., H419
 Pierson, R. N., Jr., R549
 Pinnick, R. V., F86
 Piper, H. M., H853
 Pitt, B. R., H806
 Pitts, V. H., G316
 Plass, H., F235
 Plessinger, M. A., R137
 Plum, F., R348
 Poehlman, E. T., E480, E711
 Pollock, A. S., F217
 Pollock, D. M., F1082
 Polonsky, K. S., E428
 Poore, E. R., H149
 Porte, D., Jr., R851, R856
 Porter, W. P., R699
 Potocnik, S. J., H426
 Potter, G. D., G221, G754
 Poujeol, P., C506, F386
 Powell, E., H1093
 Powell, W. J., Jr., H208
 Powers, R. E., C413
 Powley, T. L., E331
 Preston, A. S., C138
 Preuss, H. G., E156, E381
 Prigent, A., F441
 Primi, M. P., G172
 Prinzen, F. W., H255
 Probst, I., H853
 Proctor, K. G., H221
 Proppe, D. W., R30
 Prosser, C. L., G28, G287
 Pulsinelli, W. A., R348
 Purves, R. D., F551
 Putney, J. W., Jr., G280
- Quaade, F., E226
 Quamme, G. A., F590
 Qureshi, I. A., G177
 Qvist, J., R175
- Rabinowitz, L., F930
 Rabito, C. A., F734
- Rabito, S. F., C480
 Rabkin, R., E530
 Racotta, R., E518
 Radke, K. J., E259
 Radosevich, P. M., E622
 Rafael, J., C228
 Raff, H., R240
 Raizada, M. K., C236
 Rajagopalan, R., C165
 Ramirez-Altamirano, L., E518
 Ramlal, T., C720
 Ramsay, D. J., R287
 Randin, J.-P., E718
 Rannels, D. E., C871, E435
 Rannels, S. R., C871
 Rao, R. K., G850
 Rapoport, S. L., R127
 Rappaport, L., H333
 Ravussin, E., R823
 Reaven, G. M., E530
 Rector, F. C., Jr., F644
 Reedy, T., G161
 Reel, G. M., G331
 Reenstra, W. W., G76, G455
 Reetz, K. L., G248
 Reeve, J. R., Jr., G581
 Reeves, J. P., H654
 Reeves, R. B., R298
 Rehm, W. S., G511, G639
 Rehwald, W., F953
 Reibel, D. K., H1
 Reid, I. A., F92
 Reineck, H. J., F315
 Reinhardt, H. W., R946
 Reis, D. J., R932
 Rembert, J. C., H968
 Ren, C., G236
 Reneman, R. S., H255, H539
 Renkin, E. M., H706
 Rerat, A., G295
 Reuben, J. P., H699
 Ribes, G., G15
 Rich, T. L., H247
 Richard, D., R245
 Richardson, C. T., G85
 Richman, A. V., F1098
 Riedel, J., H846
 Ritter, S., R676, R682
 Ritz, E., H846
 Riveau, G., C572
 Rivera, F., F749
 Rivier, J., G127, G553
 Rizza, R., E269
 Roberts, A. M., H149
 Robillard, J. E., F294
 Robinson, A. G., R444
 Robinson, J. S., R427
 Robinson, P. H., R764
 Robinson, P. J., R127
 Roblero, J., F400
 Rockhold, R. W., H443
 Rodés, J., F749
 Rodgers, R. L., H600, H861
 Rodriguez-Zendejas, A. M., R313
 Roeske, W. R., H630
 Rogers, S., F1073
 Rohner-Jeanrenaud, F., E662
 Rojas, E., C90
 Romano, F. D., R358, R892
 Romaschin, A. D., H213
 Romero, J. C., H1145
 Ronco, P., C506, F386
 Rosario, L. M., C90
 Rose, J. C., E422
- Rose, R. C., C694, G155, G461, F627
 Rosenbaum, R. M., C970
 Rosenberg, R. D., H879
 Rosenfeld, R. S., E265
 Rosenthal, S., H208
 Ross, G., H524
 Ross, J., Jr., H464
 Ross, M. G., E253, E564
 Rossignol, B., C704
 Rothwell, N. J., E362
 Rouillet, J. B., E373
 Rouslin, W., H503
 Rovner, A. S., C861
 Rowe, J. W., E13, R1047
 Rowe, P. H., G118
 Rozanski, G. J., H397
 Rubanyi, G., C406
 Rubanyi, G. M., H815, H822, H1145
 Ruckebusch, Y., G302
 Ruenes, A., F159
 Ruggiero, D. A., R932
 Russek, M., R313
 Russell, S. M., E231
 Ryan, A. F., R493
- Sabatini, S., F532
 Sabolić, I., F817
 Saccà, L., E591
 Sacktor, B., F827
 Sagawa, K., H414, R1021
 Sagulin, G.-B., R980
 Sahlin, K., C834
 Saik, R. P., G742
 Saito, A., H693
 Saito, M., H151
 Sakai, T., F364
 Sakata, Y., R560, R776
 Saldivia, V., G518
 Salmons, S., C84
 Salsgiver, W. J., C84, C365
 Saluja, A., C413
 Saluja, M., C413
 Samarel, A. M., C589
 Samuel, J.-L., H333
 Sandri, R. B., R240
 Sandrock, A. W., H755
 Sands, K., E55
 Saneii, H., C171
 Santamore, W. P., H131
 Santicoli, P., R926
 Santos, J. C., E545
 Sarelius, I. H., H899
 Sariban-Sohraby, S., C175
 Sarna, S. K., G213, G227
 Saruta, T., F811
 Sastrasinh, M., F667
 Sastrasinh, S., F667
 Sato, K., R691, F197
 Sato, M., F802
 Sato, T., H509, E634
 Sato, Y., R1014
 Satoh, S., H672
 Satriano, J. A., F1123
 Savard, R., R837
 Savin, V. J., F86
 Sawyer, D. B., R616
 Sawyer, H. R., Jr., E282
 Sayeed, M. M., R884
 Scaduto, R. C., Jr., F744
 Schachter, D., C853
 Schafer, J. A., F246, F1063
 Scharrer, E., R1003
 Scharschmidt, L. A., F348, F838

AUTHOR INDEX TO VOLUME 250

- Schedl, H. P., G412
 Scheid, C. R., C76
 Scherer, N. M., R1060
 Schimmel, R. J., C738
 Schine, L., H595
 Schjodt, M., C688
 Schippers, E., G149
 Schlechter, N. L., E231
 Schlondorff, D., F838, F1123
 Schluter, M. D., E312
 Schmelzer, J. D., E94
 Schneeman, B. O., G420
 Schneider, E. G., E259
 Schneider, R. C., R175
 Schneider, R. M., H778
 Schnermann, J., F16
 Schoeffield, M. S., G553
 Schoeller, D. A., R823
 Schoen, H. F., C629
 Schoolwerth, A. C., F744
 Schrader, J., H173
 Schreiber, J., E352
 Schrier, R. W., F357
 Schroedl, N. A., C713
 Schubert, G., F16
 Schuessler, R. B., H630
 Schuette, S., C694
 Schultz, H. D., H149
 Schulz, I., G698
 Schutz, Y., E47, R823
 Schwab, S., F136
 Schwab, S. J., F419
 Schwartz, J., F92
 Schwartz, J. H., F115, F690
 Schwartz, K., H333
 Schwartz, M., G511, G639
 Schwartz, N. B., E341
 Schweickhardt, C., H853
 Schwertschlag, U., F1008
 Scoggins, B. A., F777
 Scott, R. B., G836
 Scremin, O. U., G794
 Scriven, T. A., F798
 Seaford, J. W., E164
 Seagard, J. L., R1074
 Searle, B. M., C939, C948
 Seckel, C., G824
 Segal, S. S., C474
 Segerson, T. P., R240
 Seino, M., F197
 Seow, K. T. F., G140
 Sessler, F. M., E551
 Settle, R. G., E312
 Sexton, P. M., F753
 Shackelford, G. M., E218
 Shanker, R., E558
 Share, L., R1007
 Sharma, R. V., C65, C275
 Sharma, V. K., C651
 Sharp, G. W. G., G691
 Shaver, J. F., G546
 Shaw, J. H. F., E306
 Shaw, S. R., R65
 Shearer, J., E24
 Shelat, H., H313
 Shepherd, J. T., H519
 Shepherd, N., C155
 Sherwin, J. R., E164
 Sherwin, R. S., E407, E686
 Sheu, S.-S., C651
 Shier, D. N., R1034
 Shih, S. T., R803
 Shimizu, N., R120
 Shine, K. I., H982
 Shinsako, J., R396
 Shirakawa, T., G361, G484
 Shoelson, S. E., E428
 Shoham, S., R96
 Shoji, M., R789
 Shorofsky, S. R., C646
 Shoukas, A. A., H96
 Shulman, R. G., F834
 Shyy, T.-T., C1
 Sibley, C. P., R474
 Siegel, J. H., E634
 Siegel, N. J., F834
 Sievers, R., H22
 Sievert, C. E., G275
 Sikes, C. R., R807
 Sikuler, E., G205
 Silen, W., G118
 Sillin, L. F., C292
 Silva, N. L., R625
 Silva, P., F516
 Silva-Netto, C. R., F322
 Simchon, S., F40
 Simon, E., R918
 Simon-Oppermann, C., R918
 Simonson, D. C., E718
 Simpson, E. A., F374
 Simpson, F. O., F551
 Singal, P. K., H419
 Singer, J. J., C792
 Singer, M. V., G558
 Sinha, Y. N., E650
 Sirén, A.-L., H1093
 Sitar, D. S., H992
 Sjöström, L., E736
 Sjövall, H., G736
 Skorecki, K. L., C103, C115
 Skorton, D. J., H1022
 Slack, B. E., C340
 Sladek, C. D., H443
 Slemmer, D., E156
 Sloan, H. R., G824
 Smith, G., R1034
 Smith, J. B., F759
 Smith, K. M., F930
 Smith, L. R., H43
 Smith, P. G., R188
 Smith, P. L., G44, G432, G475
 Smith, R. L., C84
 Smith, R. M., E148
 Smith, S. R., F282
 Smith, S. W., C480
 Smith, T. W., C32
 Smith, W. M., H530, H736
 Smyth, D. D., F103
 Snauwaert, J., C729
 Sobata, E., H389
 Soergel, K. H., G227
 Sohtell, M., F261, F267
 Sokabe, M., C361
 Solaro, R. J., H503
 Soll, A., G686
 Soll, A. H., G374, G385
 Soltoff, S. P., C744
 Sonke, P., F619
 Sonnenberg, H., F963
 Sonnenblick, E. H., H108, H620
 Soreide, O., G670
 Sosa, R. E., H871, F520
 South, F. E., R77
 Soybel, D. I., G625
 Spahr, R., H853
 Sparks, H. V., H482
 Sparks, H. V., Jr., H974
 Sparrow, M. P., C325
 Spector, R., R292
 Speez, N., F273
 Spencer, E. M., E231
 Spencer, S. E., R996
 Spratt, D. I., E338
 Stabile, B., G558
 Stacey, T. E., R112
 Stallone, J. N., R644, R658
 Stankova, L., C637
 Stark, E., E319
 Starlinger, M. J., G118
 Steer, M. L., C413
 Stein, J. H., F315, F901, F1119
 Stein, L. J., R851, R856
 Stein, T. P., E312
 Stein, W. D., C523, G561
 Steiner, G., E325
 Stekiel, W. J., C547, H761
 Sterba, G., C629
 Stern, J. S., R595
 Sternlicht, E., E570
 Stevens, M. B., H276, H558
 Stevenson-Smith, W., H131
 Stewart, C. P., C617
 Stewart, G., R1060
 Stock, M. J., E362
 Stokes, J. B., C214, F120
 Stokes, T. J., Jr., F27
 Stone, S. L., R682
 Strah, K. M., G665
 Strauss, J. F., III, H366
 Streat, S. J., E179
 Strewler, G. J., F217
 Stricker, E. M., R267
 Stromski, M. E., F834
 Stubbs, R. S., G558
 Stull, J. T., C657
 Suarez-Kurtz, G., H699
 Subjeck, J. R., C1
 Suga, H., H151, H167, H235
 Sugahara, K., C222
 Sugano, K., G686
 Sugarman, A., F695
 Sugiura, N., G405
 Sullivan, S. K., G44, G475
 Sumners, C., C236
 Sun, M.-K., R910
 Sundet, W. D., R221
 Sutko, J. L., H654, H786
 Suzuki, H., H672, F811
 Suzuki, N., G28, G287
 Suzuki, S., E243, E470
 Svanes, K., G670
 Sweeney, H. L., C657
 Sweet, W. D., H189
 Swenson, E. R., F288
 Swynghedauw, B., H923
 Syrov, I., H333
 Szabo, M., E512
 Szilagyi, J. E., R633
 Taborsky, G. J., Jr., E212
 Taché, Y., G127
 Tager, H. S., E428
 Tajimi, T., H464
 Tajiri, H., G103
 Takahashi, I., G227
 Takaichi, K., F770
 Takamitsu, Y., F97
 Takayanagi, K., H567
 Takeshita, A., H226
 Takeuchi, K., G842
 Takiguchi, M., H389
 Takishima, T., H672
 Talman, W. T., R996
 Tam, B., E629
 Tamai, J., H509
 Tamaki, T., F109
 Tamura, H., C939, C948
 Tanaka, H., G842
 Tandler, B., H741
 Tannen, R. L., F483, F702, F1039
 Tannenbaum, J., F136
 Tanner, G. A., F77
 Tappy, L., E718
 Tarui, S., G398
 Tasler, J., G391
 Tate, C. A., R1060
 Tauc, M., F386
 Taugner, R., C563
 Taylor, C. J., C171
 Taylor, R. E., Jr., E259
 Tegtmeyer, E. D., E137
 Teich, N., R51
 Te Kronnie, G. T., C729
 Tepperman, B. L., G617
 Terjung, R. L., E441, E449, H1050
 Terrettaz, J., E346
 Tesmer, J. G., C256
 Teubner, E., F302
 Thériault, G., E480, E711
 Thim, L., E545
 Thomas, S., R319
 Thompson, L. J., H786
 Thompson, M. M., C861
 Thompson, S. M., C333
 Thor, P. J., G570
 Thornburg, K. L., R459
 Thornburg, W., G850
 Thorne, M. O., E650
 Thornton, R. M., R30
 Thulin, G., F834
 Thurman, R. G., G800
 Tidball, J. G., R56
 Tisher, C. C., F1, F1055
 Toda, N., H718
 Toffolo, G., E591
 Tokushige, A., C939, C948
 Tomanek, R., H407
 Torikai, S., F210
 Torosian, M. H., E312
 Toto, R. D., F66
 Travis, G. L., C256
 Trayhurn, P., R845
 Traystman, R. J., H7, H954
 Tremblay, A., E480, E711
 Trivedi, B., F1039
 Tronier, B., E655
 Troutman, S. L., F1063
 Troy, J. L., F566
 Tsalikian, E., E269
 Tseng, C.-C., G633
 Tso, P., G497, G715
 Tsubakisaka, H., H389
 Tsuboi, S., F781
 Tsuji, K., G398
 Tsujimoto, Y., E523
 Tsunoda, K., R789, F197
 Tucker, B. J., F169
 Tuma, R. F., H137
 Turgeon, J. L., E62
 Turinsky, J., R207
 Turnheim, K., F235
 Tylien, U., E736
 Ubob, C. E., H1
 Uchida, S., F770
 Ueki, I. F., F47
 Ueki, S., G842
 Uglesity, A., C651

- Umemura, S., F103
 Ungaro, B., F986
 Urthaler, F., H43
 Usberti, M., F986

 Vailas, A. C., R65
 Vale, W., G553
 Valenzuela, G., R1095
 Vallerand, A. L., E607
 Vallotton, M. B., F790
 Valverde, I., E545
 Vandekieft, G. K., H407
 Van den Horn, G. J., H961
 Vandermolen, D. T., H490
 Van der Schee, E. J., G165
 Van Der Vusse, G. J., H255
 Van de Voorde, J., H711
 Vandewalle, A., C506, F386
 Vandeweerd, M., G149
 Vanheel, B., C748
 Vanhoutte, P. M., H519, H815,
 H822, H1145
 Van Itallie, T. B., R549
 Van Os, C. H., F470
 Van Putten, V. J., F357
 Vantrappen, G., G149
 Van Wyk, J. J., C771
 Vargas, F. F., H16
 Vari, R. C., H189
 Vary, T. C., E634
 Vassalli, J.-D., C682
 Vasthare, U. S., H137
 Vatner, S. F., H76, H546, H892
 Vaughan, E. D., Jr., F520
 Vaystub, S., F539
 Vazquez, J. A., E615
 Veenstra, R. D., H453
 Velasco-Delgado, E., E518
 Velázquez, H., F885, F1013
 Veldhuis, J. D., E486
 Verbalis, J. G., R267, R444
 Verkman, A. S., C103, C115,
 R306, F633
 Vernet, O., E47
 Verroust, P., C506, F386
 Vesell, E. S., C871
 Vesenka, G. D., G598
 Vigna, S. R., E186, E198
 Villalon, P., F400
 Villamediana, L. M., E545
 Volpe, M., H871, F520
 Volpp, B. D., F282
 Vranic, M., E236, E325, E393

 Wachtfogel, Y. T., H366
 Wade, C. E., R287
 Wade, G. N., R383, R389, R845

 Wagner, J. D., G588
 Waldrop, T. G., R1
 Walesky, M., E686
 Walker, B. R., R1028
 Walker, P., G760
 Walker, P. M., H213
 Walling, M. W., G369
 Walser, M., F181, F1128
 Walsh, J. H., G127, G374, G385,
 G581
 Walsh, J. V., Jr., C792
 Walsh, P. J., R24
 Walter, J., R96
 Wang, B. C., R221, R638, R946
 Wang, J.-Y., R104
 Wang, P., G709
 Ward, B. S., R474
 Ward, K. K., E94
 Ward, R. H. T., R112
 Waring, D. W., E62
 Warltier, D. C., H372
 Warner, A. E., R728
 Warnock, D. F., H181
 Warnock, D. G., F217
 Washington, J., G794
 Watanabe, T., R553, R560, R776
 Watkinson, W. P., H320
 Watson, E. L., C642
 Weatherford, S. C., R682
 Webb, R. C., H612
 Weber, J.-M., R452
 Weber, M., G679
 Webster, B., E186, E198
 Weems, W. A., G653
 Wei, J. Y., R733, R1047
 Weick, B. G., R676
 Weinberg, J. M., F720
 Weinstein, A. M., F860
 Weintraub, W. S., H778
 Weisbrodt, N. W., G70, G653
 Weiser, M. M., G185
 Weisinger, R. S., R1052
 Weiss, E. R., C199
 Weiss, J., H982
 Weiss, M. L., R250
 Weinstein, A. M., F874
 Welbourne, T. C., E457
 Welsh, M. J., C214
 Wen, Z. M., E39
 Wendelaar Bonga, S. E., R161
 West, D., R856
 West, G. A., H769
 West, M. L., F605
 Westergaard, H., G727
 Westerhof, N., H330, H961
 Westreich, S., R549
 Whalen, R. G., H333

 Whalen, W. J., H202
 Wheeler, D. M., C442
 White, C. W., H114, H1022
 White, H. S., E464
 White, J. F., G109
 White, T. P., C474
 Whitehouse, L., G15
 Whiting, S. J., F590
 Widdicombe, J. H., F47
 Wiedeman, M. P., H137
 Wiederholt, M., C124
 Wiener, H., F235
 Wikman-Coffelt, J., H22
 Wilborn, W. A., G535
 Wilcox, C. S., E55
 Wildenthal, K., C821
 Wiley, J. S., C26
 Wilkin, J. K., H765
 Willerson, J. T., H490
 Williams, D. A., C779
 Williams, J. A., G440, G856
 Williams, J. C., Jr., F246
 Williams, J. L., R418
 Williams, J. L., Jr., R770
 Williams, M. F., C807
 Williams, P., E248
 Williams, P. E., E622
 Willis, D. M., R459
 Wilson, D. A., H7
 Wilson, D. R., F963
 Wilson, F. A., G461
 Wilson, G. J., H213
 Wilson, H. D., G412
 Winder, W. W., E641
 Windus, D., F136
 Winn, H. R., H304
 Winterhager, J. M., C617
 Wintour, E. M., F777
 Wise, M. E., E282
 Wisniewsky, C., H333
 Wohlwend, A., C682
 Wolf, P., H736
 Wolfe, M. H., E306
 Wolfe, M. M., G331
 Wolfe, R. R., E306
 Wolff, N. A., R984
 Wollheim, C. B., C207
 Womack, W. A., G535
 Wong, N. L. M., F511, F590
 Wong, S. M. E., C841
 Wood, C. E., R403, R795
 Wood, R. L., C430
 Woodbury, D. M., E464
 Woodman, O. L., H76
 Woods, J. R., Jr., R137
 Woods, L. L., R235, R1095, F907
 Woods, S. C., R851, R856

 Wooldridge, C. B., H749
 Woolf, N. K., R493
 Worley, S. J., H530
 Worobec, S. W., C589
 Wright, E. R., C306
 Wright, F. S., F680, F885, F1013
 Wright, R. D., F503
 Wuertz, K. E., R861
 Wuthrich, R. P., F790
 Wydner, C. J., F930
 Wylds, A. C., H630
 Wyss, J. M., H82

 Yahav, J., G200
 Yaksh, T. L., R104
 Yamada, O., H151, H167
 Yamada, T., G686
 Yamamoto, E., R71
 Yamamoto, T., R120
 Yamashita, K., C299
 Yamauchi, H., F930
 Yanagawa, N., F942
 Yanaihara, N., G405
 Yanase, M., C517
 Yang, R. D., E39
 Yao, J. K., E94
 Yarger, W. E., F282
 Yasujima, M., R789
 Yau, W. M., G60
 Yellin, E. L., H620
 Yen-Chow, Y. C., E464
 Yokozeki, H., R691
 Yoran, C., H620
 York, D. A., E362
 Yoshinaga, K., R789, F197
 Young, D. A., C813
 Young, D. B., F559
 Young, G. J., C306
 Young, J. A., G140
 Young, M. A., H892
 Young, V. R., E13, E39
 Youther, M. L., G60
 Yu, G. S. M., G598
 Yusufi, A. N. K., F151
 Yvert, J. P., E373

 Zagon, I. S., C347
 Zaid, A. M., E69, E76
 Zapol, W. M., R175
 Zaror-Behrens, G., E274
 Zeigler, S. T., C807
 Zernicke, R. F., R65
 Zierler, K. L., H539
 Zimmerman, B. G., H1043
 Zola, B., H108
 Zucker, I., R831
 Zucker, I. H., H159
 Zuperku, E. J., R142, R1074

American Journal of Physiology

VOLUME 250

January-June, 1986

AJP: Cell Physiology

Editor: P. A. Knauf. *Associate Editors:* J. S. Bond, J. S. Cook, P. B. Dunham, R. A. Frizzell, M. Lieberman, L. J. Mandell, R. A. Murphy, W. J. Pledger. *Editorial Board:* Q. Al-Awqati, W. Almers, D. A. Ausiello, D. J. Benos, R. J. Beynon, J. W. C. Bird, M. P. Blaustein, J. J. Blum, L. C. Cantley, M. M. Civan, D. C. Dawson, G. Demartino, D. C. Eaton, M. Endo, A. Fabiato, J. R. Florini, G. N. Gill, S. R. Goodman, H. Green, S. Grinstein, R. B. Gunn, J. S. Handler, D. J. Hartshorne, E. Heinz, B. Hille, P. W. Hochachka, U. Hopfer, M. L. Jennings, G. L. Johnson, A. Jones, B. S. Katzenellenbogen, Y. Kidokoro, G. Kimmich, R. K. H. Kinne, S. D. Klyce, M. J. Kushmerick, J. F. Lamb, P. C. Laris, P. K. Lauf, C. O. Lee, J. E. Lever, I. G. Macara, T. E. Machen, C. C. Malbon, P. P. McCann, C. Miller, F. Morel, G. E. Mortimore, H. L. Moses, J. C. Parker, H. Passow, R. Paul, A. E. Pegg, A. H. Reddi, J. P. Reeves, L. Reuss, J. D. Robinson, K. Robinson, E. Ruoslahti, M. J. Siegman, D. Sirbasku, A. H. Tashjian, Jr., B. M. Twarog, L. J. VanEldik, M. L. Villereal, J. Wade, Z. Werb, W. R. Wharton, S. H. White, E. M. Wright, R. Zak

AJP: Endocrinology and Metabolism

Editor: L. S. Jefferson. *Associate Editors:* C. Desjardins, J. H. Exton, J. E. Gerich, I. Reid, M. Vranic. *Editorial Board:* K. G. M. M. Alberti, M. Ascoli, M. Berger, R. N. Bergman, D. M. Bier, V. S. Bishop, P. F. Blackmore, M. L. Blair, C. A. Blake, R. D. Bunag, M. G. Caron, A. D. Cherrington, J.-L. Chiasson, P. M. Conn, P. E. Cryer, S. W. Cushman, M. P. Czech, W. H. Dillman, G. F. Erickson, J. E. Foley, P. Freychet, R. V. Gallo, J. R. Gavin III, K. L. Goetz, A. L. Goodman, J. B. Halter, M. W. Haymond, G. J. Hetenyi, Jr., J. Himms-Hagen, E. S. Horton, M. Hunzicker-Dunn, U. Keller, L. Landsberg, P. Lefebvre, L. E. Limbird, D. H. Lockwood, T. E. Lohmeier, W. J. Malaisse, E. B. Marliss, J. D. McGarry, J. C. Melby, T. B. Miller, Jr., J. E. Morley, F. Q. Nuttall, S. R. Ojeda, C. S. Pace, M. J. Peach, J. Radziuk, D. E. Rannels, R. P. Robertson, D. A. K. Roncari, N. B. Ruderman, W. H. Sawyer, M. Schambelan, R. S. Sherwin, G. Steiner, J. L. Turgeon, G. R. Van Loon, J. L. Voogt, J. R. Williamson, W. W. Winder, C. B. Wollheim, J. E. Zehr

AJP: Gastrointestinal and Liver Physiology

Editor: J. A. Williams. *Associate Editors:* D. N. Granger, W. G. Hardison, T. E. Machen, G. M. Makhlof, N. W. Weisbrodt. *Editorial Board:* D. H. Alpers, P. Bass, H. G. Bohlen, J. L. Boyer, C.-C. Chou, H. J. Cooke, D. C. Dawson, H. Debas, W. C. de Groat, J. E. Dixon, M. Donowitz, M. J. Favus, M. Field, E. L. Forker, J. G. Forte, J. D. Gardner, I. D. Goldfine, S. J. Henning, S. J. Hersey, U. Hopfer, L. R. Johnson, N. Kaplowitz, G. A. Kimmich, O. Koldovsky, P. R. Kviety, H. Murer, J. D. Ostrow, O. H. Petersen, S. F. Phillips, D. W. Powell, J. W. Putney, Jr., L. Reuss, R. C. Rose, G. Sachs, B. F. Scharschmidt, G. A. Scheele, I. Schulz, A. P. Shepherd, Jr., Y.-F. Shiau, A. H. Soll, T. E. Solomon, J. H. Szurszewski, P. Tso, W. A. Weems, D. L. Wingate, J. D. Wood, E. M. Wright, T. Yamada

AJP: Heart and Circulatory Physiology

Editor: E. Page. *Associate Editors:* N. R. Alpert, B. R. Duling, E. O. Feigl, H. A. Fozzard, W. R. Gibbons, J. R. Neely, R. C. Webb. *Editorial Board:* E. Bassenge, J. B. Bassingthwaite, C. M. Baumgarten, K. H. Berecek, V. S. Bishop, D. F. Bohr, F. I. M. Bonke, M. J. Brody, A. M. Brown, G. M. Chisolm, P. B. Corr, J. G. Dobson, Jr., A. Fabiato, L. E. Ford, D. Franklin, R. H. Freeman, K. P. Gallagher, R. D. Goldfarb, J. C. Greenfield, Jr., F. J. Haddy, A. Hjalmarson, J. I. E. Hoffman, J. S. Ingwall, W. E. Jacobus, H. A. Kontos, H. Kuriyama, K. F. LaNoue, M. N. Levy, A. B. Malik, J. B. McMillin-Wood, I. Mirsky, E. N. Moore, E. Morkin, A. S. Nies, R. A. Olsson, S. Oparil, G. K. Owens, A. J. Pappano, P. I. Polimeni, E. M. Renkin, C. F. Rothe, M. J. Rovetto, K. Sagawa, W. Schaper, L. A. Sordahl, H. V. Sparks, Jr., N. Sperelakis, N. C. Staub, M. D. Thames, P. M. Vanhoutte, S. F. Vatner, J. L. Walker, Jr., A. M. Watanabe, W. B. Weglicki, J. R. Williamson, R. Zak

(Continued)

American Journal of Physiology

AJP: Regulatory, Integrative and Comparative Physiology

Editor: D. J. Ramsay. *Associate Editors:* W. H. Dantzler, P. R. McHugh, M. C. Moore-Ede, T. N. Thrasher. *Editorial Board:* G. A. Ahearn, A. E. Baue, A. F. Bennett, J. A. Boulant, E. J. Braun, G. Bray, F. R. Calaresu, I. H. Chaudry, M. E. Clark, A. W. Cowley, Jr., J. H. Crowe, D. H. Evans, R. H. Freeman, W. F. Ganong, G. L. Gebber, J. P. Gilmore, W. G. Hall, J. R. Hazel, D. C. Jackson, A. K. Johnson, M. Menaker, H. Nishimura, D. Novin, P. K. T. Pang, J. E. Phillips, M. I. Phillips, J. L. Renfro, O. E. Reynolds, B. J. Rolls, J. C. Rose, W. H. Sawyer, A. Sciafani, W. B. Severs, L. Share, O. A. Smith, G. K. Snyder, G. N. Somero, E. M. Stricker, C. R. Taylor, F. W. Turek, D. Vanderweele, S. C. Wood.

AJP: Renal, Fluid and Electrolyte Physiology

Editor: J. A. Schafer. *Associate Editors:* L. G. Navar, D. G. Warnock. *Editorial Board:* W. J. Arendshorst, P. S. Aronson, C. A. Berry, R. C. Blantz, W. F. Boron, O. A. Carretero, P. C. Churchill, W. M. Deen, G. F. DiBona, T. D. DuBose, R. Greger, M. R. Hammerman, K. Kurokawa, S. D. Levine, M. Martinez-Maldonado, D. Marver, I. A. Reid, D. P. Simpson, H. Sonnenberg, R. L. Tannen, I. M. Weiner

Modeling Methodology Forum

Editor: J. J. DiStefano III. *Editorial Board:* P. Abbrecht, N. S. Bricker, F. Bronner, E. R. Carson, E. Carterette, C. Clausen, C. Cobelli, D. D'Argenio, E. DeLand, C. DeLisi, L. Endrenyi, I. Fatt, D. Garfinkel, L. J. Goldberg, E. Gurpide, J. Hanley, M. T. Hays, G. Hetenyi, N. H. G. Holford, A. S. Iberall, J. A. Jacquez, R. Jelliffe, J. K. Kelleher, P. Kugler, E. Landaw, V. Licko, D. A. Linkens, M. S. Leaning, P. Mak, D. Marsh, J. E. A. McIntosh, R. P. McIntosh, D. J. Murray-Smith, P. Narins, C. M. Newton, M. Normand, V. Novoseltsev, C. C. Peck, J. Robbins, R. Rosen, K. B. Saunders, L. B. Sheiner, L. Stark, S. Vajda, E. Walter, D. Wiberg, W. Yamamoto, F. E. Yates.

Publications Committee
P. C. Johnson, *Chairman*
W. F. Ganong
L. R. Johnson
F. G. Knox
J. McE. Marshall

Publications Manager and Executive Editor: S. R. Geiger
Production Manager: B. B. Rauner
Editorial Staff: J. Bloomer, J. Adelman, E. Blendermann, J. Burson, A. Cahnmann, K. Cannon, K. Casteel, R. Cox, B. Kessler, F. Maloney, S. Mann, J. Salive

Published monthly by *The American Physiological Society*,
9650 Rockville Pike, Bethesda, MD 20814

Copyright © 1986 by the American Physiological Society. Printed in the United States of America by Waverly Press, Inc., Baltimore, MD 21202. The code at the bottom of the first page of an article indicates the copyright owner's consent that copies of an article may be made beyond that permitted by sections 107 and 108 of the U.S. Copyright Law—unless the copies are for general distribution, for advertising, for creating new works, or for resale—provided the per-copy fee is paid through the Copyright Clearance Center, Inc., 27 Congress St., Salem, MA 01970.

Guest Referee Editors

The Publications Committee of the American Physiological Society gratefully acknowledges the services of the following guest referee editors who assisted the Editorial Board in the reviews of manuscripts.

American Journal of Physiology: Cell Physiology

B. C. Abbott	A. L. Finn	L. C. Maxwell	S. G. Schultz
J. S. Amenta	G. Fiskum	R. W. McGilvery	R. E. Scott
P. S. Aronson	R. H. Fitts	T. J. McManus	S. S. Segal
R. M. Bagby	M. S. Forbes	R. A. Meiss	H. Shuman
R. S. Balaban	L. E. Ford	J. M. Mills	P. Silva
F. J. Ballard	J. Forrest	J. Millward	H. A. Singer
C. Baumgarten	C. Franzini-Armstrong	W. E. Mitch	C. Slayman
R. Bell	J. Freedman	R. S. Moreland	P. L. Smith
M. V. L. Bennett	A. Garcia-Perez	H. E. Morgan	S. P. Soltoff
D. M. Bers	R. Garrick	R. L. Moss	G. G. Somjen
K. W. Beyenbach	G. H. Giebisch	J. M. Mullin	A. V. Somlyo
C. P. Bianchi	R. J. Gillies	L. J. Mullins	D. Spray
R. Bienkowski	I. M. Goldstein	E. Murphy	K. R. Spring
J. V. Bonventre	W. B. Guggino	W. L. Nastuk	P. D. Stahl
W. F. Boron	M. Haas	H. N. Nellans	P. R. Stanfield
A. Bortoff	F. J. Haddy	A. L. Obaid	R. L. Stevens
R. Boucher	M. R. Hammerman	M. O'Connor	J. Stimers
J. Brahm	K. Hardin	E. O'Keefe	J. Stoddard
J. H. Brown	D. R. Hathaway	N. Olashaw	D. R. Storm
F. R. Butcher	S. D. Hauschka	R. G. O'Neil	J. T. Stull
T. M. Butler	H. G. Hempling	C. Orchard	M. L. Taub
A. G. Butt	J. O. Holloszy	G. K. Owens	R. S. Thies
D. S. Cafiso	E. Homsher	C. S. Pace	M. Toews
P. M. Cala	R. F. Husted	C. Palfrey	K. Tornheim
O. A. Candia	J. H. Im	L. G. Palmer	J. Tupper
J. Y. Cheung	W. R. Jacobs	M. J. Peach	D. C. Turner
A. Clark, Jr.	D. P. Jones	L. D. Peachey	R. J. Turner
R. F. Coburn	D. Kaji	K. D. Philipson	J. D. Valentich
R. J. Connett	K. E. Kamm	P. Phillips	P. M. Vanhoutte
R. A. Corradino	J. H. Kaplan	R. N. Pittman	E. Wallick
M. J. Cronin	W. G. L. Kerrick	P. Ponka	D. M. Warshaw
J. Cupoletti	M. S. Kilberg	R. D. Powers	D. Watterson
G. Dahl	H. D. Kim	J. W. Putney	M. M. Weiser
E. E. Daniel	K. L. Kirk	S. L. Quattropani	F. Welsh
R. E. Davies	H. Korchal	C. Rabito	M. J. Welsh
C. W. Davis	E. A. Kroeger	E. M. Renkin	T. Wheeler
W. D. Dawson	R. B. Krupka	R. Rick	T. P. White
R. DeHann	P. L. La Celle	D. F. Rochester	C. F. Whitfield
R. Deth	H. R. Lakowicz	A. Roos	J. H. Widdicombe
R. F. Diegelman	G. Langer	B. Rose	M. Willard
P. F. Dillon	K. Lau	M. Rosenthal	J. R. Williamson
G. L. Dohm	S. G. Laychock	A. S. Rovner	J. S. Willis
M. Donowitz	P. Lee	R. P. Rubin	N. K. Wills
S. P. Driska	T. J.-F. Lee	R. Rubio	R. J. Winquist
J. Duhn	A. LeFurgey	J. M. Russell	L. Wolfe
W. E. Duncan	M. Lesch	J. R. Sachs	J. M. Wolosin
G. T. Eddlestone	S. D. Levine	K. M. Sanders	R. Wondergem
B. Ehrlich	M. Lischitz	S. Sariban-Sohraby	D. M. Woodbury
B. R. Eisenberg	L. Lobaugh	A. Sastre	M. Yang
D. Erlij	R. I. Macey	C. Scheid	D. R. Yingst
C. A. Finch	S. K. Masur	R. G. Schulman	

American Journal of Physiology: Endocrinology and Metabolism

J. Adams	P. B. Arner	C. Baylis	P. J. Blackshear
G. Aguilera	L. V. Avioli	E. Beale	S. B. Bocchino
A. M. Albisser	J. Avruch	N. Ben-Jonathan	C. Bogardus
E. D. Albrecht	T. M. Badger	E. N. Bergman	R. T. Bogusky
N. Altszuler	A. J. Baertschi	H. R. Berthoud	A. Bonen
J. Amatruda	A. Baines	L. L. Bieber	S. Bonner-Weir
W. B. Anderson	R. M. Bala	I. Bihler	F. Booth
R. A. Arky	F. C. Battaglia	D. D. Bikle	G. A. Bray

I. Bremner
A. Broadus
D. P. Brooks
J. Brosnan
M. Brosnan
M. Brown
M. R. Brown
H. Brunengraber
L. Bukowiecki
M. Buse
D. Bushinsky
R. W. Butcher
M. Cantin
H. J. Carlisle
J. Caro
T. M. Chan
N. J. Christensen
J. Ciriello
M. T. Clandinin
A. Consoli
R. H. Cooper
J. D. Corbin
R. J. Cousins
D. Coy
M. J. Cronin
W. R. Crowley
B. J. Danzo
R. Day
A. J. DeBold
R. A. DeFronzo
L. J. DeGroot
A. J. D'Ercole
C. S. Deschepper
J. Devlin
J. J. Di Stefano
G. DiZerega
G. L. Dohm
B. Draznia
E. G. Erdos
M. J. Ettinger
W. S. Evans
K. D. Fagin
D. D. Fanestil
D. T. Finegood
D. A. Fisher
M. Forest
L. R. Forte
G. J. Fosmire
L. S. Frawley
B. B. Fredholm
R. H. Freeman
H. G. Friesen
J. W. Funder
H. Galbo
V. Galton
W. F. Ganong
H. E. Ganther
A. J. Garber
D. G. Gardner
J. C. Garrison
C. F. Gastineau
W. A. Gleason
J. M. Glick
A. Goldfien
T. L. Goodfriend
M. H. Goodman
M. N. Goodman
C. J. Goodner

C. A. Gorman
I. G. Gottesman
J. M. Gray
P. Griminger
J. F. Habener
P. F. Hall
B. P. Halloran
M. Halperin
S. R. Hamilton
R. W. Hanson
R. A. Harris
J. Harrison
G. J. Hausman
I. D. Hay
R. C. Haynes
G. Hedge
S. J. Henning
H. L. Henry
J. Hirsch
J. O. Holloszy
J. J. Holst
I. Hope
C. Hoppel
R. L. Horst
G. Huszar
N. Hutson
S. Hutson
W. C. Hymer
T. Inagami
L. Jarfeld
J. B. Jaspán
B. Jeanrenaud
D. Jenkins
G. Jones
C. R. Kahn
N. Kalant
S. C. Kalhan
F. J. Karsch
A. A. H. Kassenaar
J. Katz
M. Keller-Wood
F. W. Kemmer
F. P. Kennedy
L. B. Kinter
G. G. Klee
A. H. Klein
R. Kliegman
C. K. Klingbeil
A. Klip
F. J. Knox
R. C. Koehler
D. J. Koerker
S. Kooh
J. L. Kostyo
E. W. Kraegen
R. A. Kreisberg
K. LaNoue
P. R. Larsen
S. Laychock
R. J. Lefkowitz
S. F. Leibowitz
L. A. Leiter
G. E. Lester
A. Leure-Dupree
B. E. Levin
J. E. Levine
J. F. Liard
H. L. Lickley

V. Licko
C. J. Lynch
R. M. MacLeod
L. E. Mallette
R. L. Malvin
L. J. Mandarino
M. Mangiapane
Y. Le Marchand
H. M. Marsh
J. M. Marshall
S. Marshall
J. Martin
D. Marver
E. J. Masoro
F. Matschinsky
D. E. Matthews
J. H. McNeill
K. M. J. Menon
G. Meschia
C. Metzler
J. M. Michenfelder
J. M. Miles
L. J. Miller
R. A. Missenson
G. W. Moll, Jr.
W. F. H. M. Mommaerts
R. D. Moore
T. J. Moore
N. G. Morgan
B. Munger
X. J. Musacchia
W. B. Neaves
A. F. Negro-Vilar
T. M. Nett
D. J. O'Donovan
D. N. Orth
D. H. Osmond
M. S. Paller
P. K. T. Pang
W. M. Pardridge
C. R. Park
G. T. Peake
O. Pedersen
P. B. Pencharz
J. P. Perkins
M. A. Permutt
P. F. Pilch
C. S. Pittman
K. S. Polonski
C. Polychronakos
B. I. Posner
R. L. Post
A. S. Prasad
M. P. Printz
E. Quillen, Jr.
L. J. Rajzman
P. Randle
B. Rapoport
E. P. Reaven
R. W. Rebar
M. Rechler
D. M. Regen
L. E. Reichert, Jr.
E. M. Reimann
L. P. Renaud
M. D. Resh
E. A. Richter
R. A. Rizza

G. L. Robertson
A. G. Robinson
G. A. Rodan
D. R. Romsos
R. M. Rosa
J. C. Rose
O. M. Rosen
J. Roth
L. Sacca
D. S. Schade
R. J. Schimmel
R. Schwartz
W. F. Schwenk
G. V. Segre
W. B. Severs
G. W. G. Sharp
I. Simpson
K. L. Skorecki
C. D. Sladek
U. Smith
W. A. Smith
K. W. Snowdowne
E. H. Sonnenblick
R. L. Sorenson
J. Sowers
M. A. Sperling
J. A. Spitzer
R. Stevenson
W. S. Stirewalt
J. F. Strauss
J. Swartz
R. W. Swick
A. J. Szabo
M. H. Tan
R. L. Tannen
M. R. Taskinen
L. C. Terry
A. B. R. Thomson
K. L. Thornburg
M. Toews
S. U. Toverud
G. T. Tyce
P. M. Vanhoutte
P. T. Varandani
T. Vary
J. D. Veldhuis
M. Walser
D. Wasserman
P. Watson
W. B. Wehrenberg
R. F. Weick
S. Weigle
R. I. Weiner
G. C. Weir
T. C. Welbourne
M. E. Wernette-Hammond
W. W. Wilfinger
B. M. Wilkes
C. Wilkinson
R. R. Wolfe
C. E. Wood
S. Woods
R. J. Wurtman
R. Yalow
H. Yki-Jarvinen
J. B. Young
W. S. Zawulich
S. Zlotkin

American Journal of Physiology: Gastrointestinal and Liver Physiology

S. H. Ackerman
S. A. Adibi
L. M. Akkermans

R. H. Allen
M. Anwer
A. I. Arieff

P. S. Aronson
J. A. Arruda
J. A. Balint

J. G. Banwell
F. C. Barone
W. H. Barr

J. A. Barrowman	H. Fromm	J. T. LaMont	S. A. Rosenzweig
N. Bass	T. S. Gaginella	I. M. Lang	C. Rudolph
S. Batzri	R. H. Gallavan	N. F. LaRusso	J. P. Ryan
I. T. Beck	M. Gascon-Barre	B. H. Lauterburg	S. M. Sabesin
R. C. Beesley	W. Gerthoffer	E. Leberthal	V. L. Sallee
J. N. Benoit	J. G. Ghazarian	S. E. Leeman	K. M. Sanders
P. Biancani	J. S. Gidda	N. R. Levens	S. K. Sarna
H. J. Binder	C. A. Goresky	M. D. Levitt	S. Sassa
G. L. Blackburn	R. Goyal	M. Levy	C. R. Savage
P. F. Blackmore	H. J. Granger	L. M. Lichtenberger	D. Schachter
A. T. Blei	G. M. Gray	V. M. Licko	J. F. Schaeffer
B. L. Blitzer	G. H. Greeley	R. A. Liddle	L. R. Schiller
W. F. Boron	G. M. Green	M. Lipkin	M. Schubert
A. Bortoff	C. V. Greenway	C. D. Logsdon	K. S. Schulze
K. L. Bowes	M. B. Grisham	B. R. Lucchesi	C. C. Schwartz
T. D. Boyer	R. J. Groszmann	G. D. Luk	L. D. Scott
T. A. Brasitus	G. Gullickson	L. Lumeng	E. R. Seidel
F. Bronner	J. J. Gumucio	O. Lundgren	J. Selhub
J. C. Brown	R. A. Gunther	I. L. Mackenzie	Y. F. Shiau
N. M. Buckley	F. J. Haddy	D. Mailman	P. Shinnick-Gallagher
L. Bueno	D. Haim	J. R. Malagelada	W. Silen
G. B. Bulkley	J. S. Handler	P. F. Malet	M. Skoglund
T. F. Burks II	H. Harty	P. Mantyh	M. W. Smith
M. M. Cassidy	G. B. Henderson	J. Marshall	P. L. Smith
D. O. Castell	B. I. Hirschowitz	D. Marver	W. J. Snape, Jr.
G. A. Gastro	W. J. Hogan	J. R. Mathias	S. H. Snyder
E. B. Chang	M. F. Holick	G. B. McDonald	A. H. Soll
A. N. Charney	D. Hollander	J. A. McGowan	J. G. Spenney
H. S. Chase	M. D. Hollenberg	J. E. McGuigan	N. Sperelakis
L. Y. Cheung	R. P. Holmes	C. McIntosh	J. J. Spitzer
C. S. Chew	L. Holm-Rutli	F. Michelangeli	M. L. Steer
W. Y. Chey	J. J. Holst	L. J. Miller	P. H. Stern
T. Chiba	P. R. Holt	R. J. Miller	J. J. Stewart
R. Coburn	R. T. Holzbach	J. A. Morisset	F. J. Suchy
C. F. Code	S. R. Hootman	S. Muallem	R. W. Summers
S. Cohen	K. A. Hubel	B. G. Munck	A. Surprenant
S. M. Collins	P.-M. Huet	F. Murad	J. Szczotka
M. E. Conrad	J. D. Huizinga	R. A. Murphy	Y. Tache
E. E. Daniel	M. H. Humphreys	H. N. Nellans	N. Tavaloni
C. W. Davis	J. Isenberg	P. R. Nemeth	J. C. Thompson
J. S. Davison	Z. Itoh	J. P. Nolan	J. W. Thompson
R. De Lisle	H. E. Ives	E. P. Nord	P. P. Toskes
J. R. Demarest	R. Iyengar	H. S. Ormsbee III	D. J. Triggie
K. Dharmasathaphorn	M. J. Jackson	J. C. Orr	E. Urban
E. P. DiMagno	L. R. Jacobs	A. Ouyang	G. V. Vahouny
R. Dimaline	R. T. Jensen	C. Ouyang	R. W. Van Dyke
R. M. Donaldson	A. W. Jones	S. Pandol	C. J. Van Os
A. Dubois	M. E. Jones	D. A. Parks	J. C. Venter
M. E. Duffey	A. M. Kahn	D. S. Parsons	D. A. Vessey
N. J. Dun	W. H. Karasov	B. Pearce	S. R. Vignia
G. L. Eastwood	D. K. Kasbekar	S. R. Peiken	Z. R. Vlahcevic
D. C. Eaton	G. L. Kaufmann	M. Perdue	J. B. Wade
D. I. Edelstone	J. Kaunitz	M. A. Perry	W. A. Walker
C. J. Edmonds	K. A. Kelly	F. Porreca	J. H. Walsh
D. Erlj	J. Kiel	A. J. Premen	J. Watkins
S. Erlinger	Y. S. Kim	K. G. Proctor	F. L. Weber
G. Everson	M. Korc	N. Publicover	R. A. Weisiger
R. G. Faust	R. J. Korthuis	S. C. Rattan	S. L. Werlin
G. A. Feldman	D. L. Kreulen	P. L. Rayford	M. S. Wheby
M. Feldman	J. Krier	W. W. Reenstra	J. F. White
R. Fisher	E. A. Kroeger	J. Reichen	B. J. Whittle
G. Flemström	M. Laburthe	F. D. Reilly	N. K. Wills
G. Forstner	L. Lack	J. Renfeld	F. Wilson
J. E. T. Fox	R. G. Lahaie	D. G. Reynolds	M. M. Wolfe
E. Friedman	J. Lake	A. Robert	H. G. Windmueller
D. M. Fromm	C. Lamers	C. Roman	W. M. Yau

American Journal of Physiology: Heart and Circulatory Physiology

F. L. Abel	M. Antonaccio	R. J. Bache	R. O. Banks
N. Alexander	C. Antzelevitch	P. G. Baer	A. C. Barger
J. Allen	C. Apstein	J. C. Bailey	K. L. Barnes
B. Altura	R. Aronson	L. E. Baker	W. H. Barry
M. C. Andresen	E. O. Attinger	S. Baker	S. L. Bealer
M. Anliker	K. F. Austen	N. Banchero	B. P. Bean

L. Becker
T. Bedford
W. H. Beierwaltes
D. R. Bell
R. F. Bellamy
F. L. Belloni
P. Bennett
T. D. Bennett
J. A. Bevan
R. Beyar
J. Bhattacharya
O. H. Bing
S. P. Bishop
C. M. Bloor
H. G. Bohlen
R. F. Bond
A. A. Bove
A. J. Brady
G. P. Brierley
K. L. Brigham
B. Bromberger-Barnea
D. Brooks
K. B. Brosnihan
M. R. Brown
C. A. Bruner
M. J. Brunner
H. J. Bryant
J. P. Buckley
N. M. Buckley
C. W. Buffington
R. Buñag
P. Bunger
R. Bünger
A. H. Burns
D. W. Busija
S. M. Cain
K. B. Campbell
K. P. Campbell
W. B. Campbell
P. J. Cannon
R. M. Carey
R. B. Case
S. S. Cassidy
K. Catt
C. Cauvin
B. Chance
N. Chand
B. M. Chapman
K. R. Chien
W. M. Chilian
J. E. Chimoskey
P. C. Churchill
J. Clapp
J. D. Coffman
C. J. Cohen
D. Cohen
I. S. Cohen
R. Cohen
T. Colatsky
G. Cooper, IV
L. V. N. Cothran
R. L. Coulson
J. W. Covell
A. W. Cowley, Jr.
R. H. Cox
P. Coyle
C. Crone
H. Cserr
A. Cutilleta
B. H. Culver
F.-R. E. Curry
L. D'Alecy
D. H. Damon
E. E. Daniel
S. Daniel
D. L. Davis
M. J. Davis

A. J. DeBold
R. L. DeHaan
V. DeQuattro
J. N. Diana
D. E. Dobbins
P. B. Dobrin
W. P. Dole
K. Dormer
H. F. Downey
J. A. Downey
J. M. Downey
S. E. Downing
W. N. Duran
D. L. Eckberg
N. H. Edelman
D. I. Edelstone
T. S. Edgington
V. Elharrar
G. Elzinga
M. L. Entman
D. Euler
J. J. Faber
A. I. Faden
B. Fagrell
S. Feinstein
J. D. Fenstermacher
J. P. Filkins
G. D. Fink
S. F. Flaim
W. W. Fleming
M. R. Flick
J. D. Folts
H. V. Forster
M. J. Fregley
A. M. Fujii
R. F. Furchgott
P. Furspan
W. H. Gaasch
D. C. Gadsby
M. H. Gee
M. Gerová
W. R. Giles
R. A. Gillis
J. P. Gilmore
R. F. Gilmour
S. Glagov
S. A. Glantz
H. G. Glitsch
K. Goetz
L. Goldstein
E. Gomez-Sanchez
T. L. Goodfriend
R. Gorczynski
F. Gordon
F. J. Gordon
R. W. Gore
C. A. Goresky
M. W. Gorman
S. E. Graber
H. J. Granger
A. S. Green
J. E. Greenleaf
R. Grekin
D. M. Griggs, Jr.
G. J. Gross
J. F. Gross
W. Grossman
K. A. Gruber
A. C. Guyton
J. E. Hall
W. Halpern
P. V. Halushka
D. R. Harder
A. R. Hargens
I. E. Hassinen
E. W. Hawthorne
D. Healy

D. J. Hearse
H. B. Hechtman
C. Heesch
L. L. Hefner
D. D. Heistad
J. T. Herlihy
R. K. Hermismeyer
R. F. Highsmith
L. B. Hinshaw
H. Hirche
B. B. Hoffman
P. M. Hogan
N. K. Hollenberg
C. Homcy
C. R. Honig
W. B. Hood
W. Hornbeck
S. R. Houser
A. H. Huang
W. C. Hunter
V. H. Huxley
C. D. Ianuzo
M. Intaglietta
B. R. Ito
W. F. Jackson
J. Jalife
J. S. Janicki
M. J. Janse
W. J. Janssens
C. January
R. F. Janz
S. Jard
J. M. Jarmakani
R. B. Jennings
J. O. R. Jensen
A. K. Johnson
A. W. Jones
C. E. Jones
D. P. Jones
S. Julius
G. Kaley
J. E. Kaplan
M. B. Kardon
T. G. Karrison
R. S. Kass
R. E. Katholi
A. M. Katz
M. A. Katz
B. G. Katzung
M. Kaufman
J. Kelley
J. L. Kenyon
M. Kessler
P. Kezdi
P. A. Khairallah
G. Kinasewitz
G. A. Klassen
R. L. Kline
F. J. Klocke
R. A. Kloner
I. J. Kopin
E. M. Krieger
J. W. Krueger
D. L. Kunze
W. Kuschinsky
E. G. Lakatta
M. M. Laks
F. Lamb
J. M. J. Lamers
E. G. Lapetina
M. H. Laughlin
W. J. Lederer
A. M. Lefer
C. W. Leffler
R. J. Lefkowitz
M. Legato
N. J. Leonard

H. J. Levine
M. M. LeWinter
R. Lewis
S. F. Lewis
C.-S. Liang
J.-F. Liard
T. M. Lincoln
L. Lindbom
S. L. Lipsius
G. Lister
W. C. Little
W. E. Lockette
J. M. Loeb
D. J. Loegering
T. E. Lohmeier
J. H. Lombard
J. C. Longhurst
J. C. Longhurst
D. E. Longnecker
A. J. Lonigro
W. M. Lovenberg
B. K. Lucchesi
B. R. Lucchesi
C. L. MacAnespie
A. MacPhee
K. U. Malik
A. Malliani
R. L. Malvin
M. L. Mangiapane
J. W. Manning
M. L. Marcus
A. Mark
A. L. Mark
D. J. Marsh
J. D. Marsh
B. E. Marshall
J. M. Marshall
P. J. Martin
R. E. Mates
W. L. Maughan
W. Mayhan
T. A. McCalden
D. McCall
P. F. McDonagh
T. F. McDonald
J. E. McKenzie
T. A. McMahon
L. M. McManus
I. F. McMurtry
J. E. McNamee
J. H. McNeill
R. M. Mentzer
G. Meschia
E. J. Messina
D. D. Metcalfe
C. C. Michel
R. W. Millard
R. J. Miller
T. B. Miller, Jr.
W. P. Milnor
M. Miniati
J. H. Mitchell
W. Mitzner
W. Mohl
D. E. Mohrman
H. Moises
D. Moisey
M. Morris
R. Moss
E. E. Muirhead
L. A. Mulieri
R. A. Murphy
P. A. Murray
J. H. Myers
C. Napolitano
A. Nasjletti
M. A. Nathan

R. D. Nathan
D. O. Nelson
R. M. Nerem
A. Neumann
W. Nichols
P. Niederer
T. O. Nield
A. Noordergraaf
R. A. Norman
R. L. Nunnally
G. Osol
E. Pagani
R. V. Panganamala
A. D. Pasipoularides
R. J. Paul
M. J. Peach
Z. J. Penefsky
B. Penney
S. Permutt
J. Pfeffer
M. A. Pfeffer
R. D. Phair
M. I. Phillips
R. N. Pittman
D. W. Plath
G. H. Pollack
J. B. Price
A. R. Pries
D. U. Priola
D. V. Priola
K. G. Proctor
S. H. Rahimtoola
D. C. Randall
W. C. Randall
J. T. Reeves
D. Reibel
I. A. Reid
J. V. O. Reid
K. A. Reimer
D. J. Reis

D. G. Reynolds
E. L. Ritman
R. J. Rivers
M. Roach
G. A. Robison
A. P. Rocchini
J. C. Romero
J. Rose
M. R. Rosen
P. Rosen
I. H. Rosenberg
W. I. Rosenblum
R. Rubio
J. W. Ryan
T. M. Saba
H. Sandler
M. Sanguinetti
I. H. Sarelus
T. P. Schaible
J. Schaper
C. R. Scheid
H. R. Schelbert
A. M. Scher
J. Scheuer
P. G. Schmid
G. W. Schmid-Schoenbein
E. E. Schneeberger
J. Schrader
P. T. Schumacker
A. Schwartz
K. Schwartz
A. G. Scicli
B. Scoggins
O. U. Scremin
S. S. Segal
J. W. Severinghaus
R. E. Shade
J. T. Shepherd
S.-S. Sheu
A. A. Shoukas

S. G. Shroff
B. Siesjo
M. Simson
H. A. Singer
J. B. Smith
T. W. Smith
R. J. Solaro
E. Soltis
J. R. Somer
A. Somlyo
E. Songu-Mize
E. H. Sonnenblick
R. R. Sonneschein
J. A. E. Spaan
J. F. Spear
W. S. Spielman
D. C. Spray
W. N. Stainsby
S. A. Stalcup
R. Stark
R. B. Stephenson
H. C. Straus
H. Suga
J. T. Sylvester
J. Szilagyi
H. Taegtmeier
G. J. Tangelier
A. E. Taylor
G. H. Templeton
O. G. Thilenius
J. X. Thomas
L. P. Thompson
K. L. Thornburg
H. Tillmanns
F. G. Toback
L. Tobian
R. J. Tomanek
R. J. Traystman
N. C. Trippodo
R. F. Tuma

J. V. Tyberg
T. Unger
R. N. Vaishnav
C. VanBreeman
M. Vassalle
F. Vetterlein
D. Villarreal
R. R. Vollmer
J. T. Walsh
H.-H. Wang
D. C. Warltier
D. Warshaw
A. Wasserstrom
J. A. Wasserstrom
P. Watson
L. C. Weaver
K. T. Weber
M. L. Weisfeldt
H. R. Weiss
A. H. Werber
T. C. West
D. P. Westfall
T. Westfall
R. G. Whalen
T. White
W. V. Whitehorn
C. F. Whitfield
A. Wiegner
G. H. Williams
B. Winkler
R. J. Winquist
A. L. Wit
C. Wood
A. C. Yao
F. C.-P. Yin
H. Zimmer
B. Zimmermann
I. H. Zucker
B. W. Zweifach

American Journal of Physiology: Regulatory, Integrative and Comparative Physiology

G. Ahlborg
H. E. Albers
R. H. Alvarado
M. C. Anderesen
A. E. Andersen
C. Arnaud
J. Axelrod
M. A. Baker
R. S. Balaban
B. A. Baldwin
P. Ballard
D. W. Barfuss
S. L. Bealer
P. J. Bechtel
T. Bennett
D. J. Benos
S. Benyajati
P. Bie
S. A. Binkley
G. E. Bisgard
V. S. Bishop
C. M. Blatters
J. Bligh
P. Borgdorff
M. N. Bradbury
B. Brenner
J. R. Brobeck
W. H. Brodsky
M. Brody
V. Brookes
D. P. Brooks

G. A. Brooks
M. R. Brown
R. D. Bunag
W. Burggren
T. F. Burks
L. E. Burnett
J. M. Burt
J. B. Cabot
J. N. Cameron
B. M. Carlson
S. N. Cassin
R. W. Chesney
P. Churchill
J. Ciriello
J. Claybaugh
C. Cobelli
M. Cogan
J. J. Cohen
R. K. Cohen
H. Coleridge
J. Coleridge
R. J. Contreras
R. J. Cousins
E. C. Crawford
M. F. Dallman
R. L. Dampney
J. Dark
D. Darlington
F. C. Davis
J. Daybaugh
W. C. de Groat

M. Desautels
R. C. Deth
J. A. Deutsch
G. F. Di Bona
J. J. DiStefano III
P. B. Dobrin
A. B. Dubois
B. Dunning
D. Eckberg
H. H. Edelman
R. V. Edgerton
P. Eggena
O. G. Ekindjian
J. A. Elliott
A. Epstein
M. H. Evans
J. J. Faber
J. A. Falkner
V. Fencel
J. Fenstermacher
C. M. Ferrario
D. P. Figlewicz
J. P. Filkins
J. T. Filzsimons
G. Fink
S. F. Flaim
H. V. Forster
M. J. Fregly
E. D. Frolich
C. A. Fuller
P. H. Gander

D. Gann
D. Garfinkel
N. Geary
H. Geeser
J. Gibbs
S. Glantz
T. Gleeson
R. E. Godt
J. Goerke
K. L. Goetz
L. I. Goldberg
B. Goldman
L. Goldstein
J. M. Gosline
J. Graham
O. G. Grahame-Smith
J. G. Granneman
G. C. Grigg
R. E. Grindeland
W. Grizzle
G. Grodsky
P. Guyenet
A. C. Guyton
F. J. Haddy
J. H. Hagen
J. E. Hall
B. Halloran
H. T. Hammel
J. Hardcastle
D. J. Hartshorne
K. Hashimoto

J. R. Haywood
J. E. Heath
C. Heller
H. C. Heller
G. Helm
S. I. Helman
G. R. Hervy
S. S. Hillman
S. D. Hillyard
J. Himms-Hagen
W. E. Hoffman
N. D. Horseman
B. A. Horwitz
K. Houpt
M. Humphreys
D. L. Kaminski
B. Karazov
T. Kasser
N. Kasting
S. Kaufman
R. E. Keesey
N. Kenney
P. A. Khairallah
T. S. Kilduff
J. L. Kinsella
M. J. Kluger
J. G. Kral
S. F. Kraly
R. E. Kronauer
S. J. Lai-Fook
J. H. Laragh
G. H. Laverty
J. Ledsome
S. F. Leibowitz
G. Leng
C. Limas
B. Lindblom
J. M. Lipton
L. D. Longo
R. Lowe
T. Maack
A. Malliani
R. L. Malvin
M. Mangiapane

T. H. Maren
R. L. Marsh
J. Marshall
D. I. McCloskey
E. McGuire
M. J. McKinley
T. D. McKinney
T. A. McMahon
R. A. McNabb
S. A. Mendoza
C. Metzler
R. E. Miller
K. J. Miller
E. Mills
W. K. Milsom
D. S. Minors
R. E. Mistlberger
M. Mitchell
R. Mitchell
G. Mogenson
M. L. Moline
T. H. Moran
W. K. Morishige
J. Murray
E. R. Nadel
J. A. Nadel
K. A. Nagy
P. Nathanielsz
B. R. Nechay
S. Nicolaidis
R. Nicoll
H. V. Nielsen
R. E. Norgren
R. Odessey
K. Olsson
S. Oparil
G. Ordway
H. W. Overbeck
J. Panksepp
W. M. Pardridge
C. S. Patlak
E. S. Petersen
T. V. Petersen
C. Pittendrigh

Q. Pittman
P. M. Plotsky
C. Polosia
M. B. Popp
T. L. Powley
A. J. Quebbemann
E. Quillen
H. Raff
S. I. Rapoport
F. C. Rector
J. T. Reeves
R. J. Reiter
E. M. Renkin
S. M. Reppert
L. Reuss
R. C. Ritter
S. Ritter
D. Robertshaw
G. Robertson
A. M. Rosenwasser
N. Rothwell
B. Rusak
T. Saba
K. Sagawa
P. E. Sawchenko
P. G. Schmid
R. A. Schmidt
E. G. Schneider
L. P. Schramm
W. J. Schwartz
J. W. Severinghause
J. Simpson
L. Sokoloff
H. Sonnonberg
N. Sperelakis
J. Spitzer
J. N. Stallone
B. A. Stanton
T. P. Stein
F. K. Stephan
J. Stern
N. R. Stevenson
J. T. Stitt
E. Stone

J. T. Stull
F. M. Sulzman
A. C. Swann
A. G. Szafarezyk
T. Taigen
T. S. Takala
Y. Takei
E. Tanagho
C. Tate
D. Trenchard
T. Unger
H. Valtin
S. F. Vatner
T. S. Velky
J. Verbalis
J. Vergara
D. J. Vleck
C. E. Wade
G. Walberg
S. Walker
B. C. Wang
S. Ward
I. M. Weiner
E. Weinman
I. L. Weissmann
T. C. Welbourne
D. K. Welsh
B. Whipp
M. C. Williams
J. R. Williamson
J. X. Wilson
W. W. Winder
J. B. Wirth
B. A. Wittenberg
R. R. Wolfe
C. M. Wood
L. H. Wood
S. H. Wright
R. J. Wurtman
D. A. York
D. Ycung
J. B. Young
J. E. Zehr
I. Zucker

American Journal of Physiology: Renal, Fluid and Electrolyte Physiology

H. E. Abboud
R. G. Abramson
U. Ackerman
W. R. Adam
F. Al-Bazzaz
E. A. Alexander
A. Alfrey
R. J. Alpern
H. J. Androgue
R. Ardailou
J. A. L. Arruda
K. Aukland
D. A. Ausiello
P. G. Baer
A. D. Baines
B. J. Ballerman
N. Bank
L. Bankir
R. O. Banks
D. W. Barfuss
P. Q. Barrett
C. P. Bastl
M. Baum
C. Baylis
W. H. Beierwaltes
D. P. Bell
P. D. Bell

E. Bello-Reuss
P. Bencsath
W. M. Bennett
T. Berl
M. J. Bia
B. A. Biagi
T. Biber
P. Bie
E. H. Blaine
K. Bomszyk
J. P. Bonjour
J. P. Bonvalet
J. J. Bourgoignie
J. Bourguet
R. O. Brace
P. H. Brand
E. J. Braun
P. C. Brazy
A. S. Brem
J. P. Briggs
W. A. Brodsky
R. Brubaker
V. M. Buckalew, Jr.
R. E. Bulger
G. Burckhardt
T. J. Burke
J. C. Burnett, Jr.

M. S. Burns
D. A. Bushinsky
M. Cantin
P. K. Carmines
D. Chabardes
R. W. Chesney
S. Y. Chou
M. G. Cogan
R. E. Colindres
J. D. Conger
L. S. Constanzo
R. L. Coulson
A. W. Cowley
R. E. Cronin
R. M. Culpepper
M. G. Currie
W. H. Dantzler
R. Dawson
A. J. DeBold
R. A. DeFronzo
F. R. DeRubeis
J. R. Dietz
R. Dilley
V. A. DiScala
A. Doucet
J. G. Douglas
T. P. Dousa

M. J. Dunn
R. Dunn
M. Ede
R. Edwards
M. Epstein
A. P. Evan
J. L. Eveloff
C. Eyzaguirre
L. P. Feigen
R. Felder
L. G. Fine
W. Finn
E. C. Foulkes
R. H. Freeman
T. A. Fried
P. A. Friedman
G. Frindt
J. H. Galla
P. Galle
J. Garvin
V. E. Gattone
F. J. Gennari
J. G. Gerber
K. M. Giacomini
J. P. Gilmore
S. L. Gluck
L. I. Goldberg

S. Goldfarb
J. M. Goldinger
D. W. Good
G. Göthberg
R. W. Gotshall
J. Granger
S. Grinstein
K. A. Gruber
S. Guggino
W. Guggino
S. Gullans
J. E. Hall
D. R. Halm
J. W. Hanrahan
A. Haramati
P. D. Holohan
T. H. Hostetter
K. A. Hruska
W. A. Hsueh
W. C. Huang
H. N. Hulter
I. Ichikawa
M. Imai
T. Inagami
B. A. Jackson
H. R. Jacobson
R. Jamison
P. A. José
A. M. Kahn
D. M. Kaji
R. E. Katholi
G. A. Kaysen
S. A. Kempson
J. Kinsella
L. B. Kinter
K. A. Kirchner
K. Kirk
M. A. Kirschenbaum
S. Klahr
J. G. Kleinman
F. G. Knox
V. Kon
U. C. Kopp
H. J. Kramer
J. I. Kreisberg
R. A. Kreisberg
W. Kriz
R. T. Kunau, Jr.
I. Kurtz
M. E. Laski
W. B. Lawton
C. O. Lee
C. Le Grimmellec
J. Lemann
D. Z. Levine

N. G. Levinsky
M. Levy
J. F. Liard
M. D. Lifschitz
S. L. Linas
M. D. Lindheimer
A. Lindner
T. E. Lohmeier
R. D. Loutzenhiser
T. Maack
A. D. C. MacKnight
D. A. Maddox
K. M. Madsen
R. Mamelok
G. R. Marchand
H. S. Margolius
D. J. Marsh
K. J. Martin
M. Martinez-Maldonado
S. G. Massry
S. Masur
D. L. Maude
A. Maunsback
D. A. McCarron
T. D. McKinney
J. Menard
F. A. Mendelsohn
I. H. Mills
J. H. Mills
A. K. Mircheff
W. E. Mitch
B. A. Molitoris
L. C. Moore
A. Moran
T. O. Morgan
D. Morris
A. R. Morrison
F. Murad
H. Murer
A. Nasjletti
P. G. Needleman
A. S. Nies
H. Nishimura
E. Nord
J. Ofstad
D. E. Oken
J. A. Oliver
R. G. O'Neil
J. L. Osborn
C. E. Ott
M. Paller
L. G. Palmer
P. K.-T. Pang
C. H. Park

R. V. Paul
A. E. Persson
D. R. Peterson
L. N. Peterson
J. E. Phillips
D. W. Ploth
A. S. Pollock
H. G. Preuss
J. B. Puschett
G. A. Quamme
L. Rabinowitz
R. Rabkin
M. E. Raichle
L. Raij
M. C. Reif
J. L. Renfro
E. M. Renkin
L. Reuss
C. Robertson
J. E. Robillard
F. Roch-Ramel
R. J. Roman
J. C. Romero
S. G. Rostand
S. Sabatini
B. Sacktor
V. J. Savin
M. Schambelan
L. Scharnsmidt
D. Schlondorff
J. Schnermann
G. J. Schwartz
J. H. Schwartz
A. G. Scicli
M. L. Sears
J. Seifter
R. Shade
D. Shoback
N. J. Siegel
S. Silbernagl
P. Silva
M. Silverman
K. Skorecki
R. R. Smeby
J. Smith
K. Soles
R. J. Solomon
P. S. Sorensen
J. R. Sowers
W. S. Spielman
A. Spitzer
K. R. Spring
J. Sraer
B. A. Stanton

T. H. Steele
J. H. Stein
D. L. Stetson
T. J. Stokes
L. C. Stoner
J. W. Strandhoy
G. J. Strewler
R. A. L. Sutton
G. A. Tanner
M. Taub
R. Taugner
C. E. Thomas
S. M. Thompson
L. Tobian, Jr.
T. Treasure
N. C. Trippodo
B. Tucker
R. J. Turner
A. Vander
R. C. Vari
S. F. Vatner
E. D. Vaughan, Jr.
H. Velasquez
A. S. Verkmann
W. Victory
M. Walser
M. Watford
J. M. Weinberg
M. W. Weiner
E. J. Weinman
A. Weinstein
S. W. Weinstein
W. J. Welch
L. W. Welling
G. Whittenbury
C. S. Wilcox
J. R. Williamson
L. R. Willis
N. K. Wills
D. R. Wilson
P. D. Wilson
M. Wolgast
P. Y.-K. Wong
J. Work
F. S. Wright
S. Wright
N. Yanagawa
W. E. Yarger
C. C. Yip
D. B. Young
R. Zager
E. J. Zambraski
B. G. Zimmerman
R. D. Zipser

1



L
O
6

I

Contents of Volume 250

American Journal of Physiology

Vol. 250, 1985

Special Review

Special Review: The Role of the
Cell in the Regulation of the
Heart

**American Journal of Physiology:
Cell Physiology**

**American Journal of Physiology:
Endocrinology and Metabolism**

**American Journal of Physiology:
Gastrointestinal and Liver Physiology**

**American Journal of Physiology:
Heart and Circulatory Physiology**

**American Journal of Physiology:
Regulatory, Integrative and Comparative Physiology**

**American Journal of Physiology:
Renal, Fluid and Electrolyte Physiology**

Contents of Volume 250
American Journal of Physiology

American Journal of Physiology
Cell Physiology

American Journal of Physiology
Endocrinology and Metabolism

American Journal of Physiology
Gastrointestinal and Liver Physiology

American Journal of Physiology
Heart and Circulatory Physiology

American Journal of Physiology
Respiratory, Integrative and Comparative Physiology

American Journal of Physiology
Renal, Fluid and Electrolyte Physiology

American Journal of Physiology: Cell Physiology

No. 1. JANUARY 1986

BRIEF REVIEW

Stress protein systems of mammalian cells

J. R. Subjeck and T.-T. Shyy

C1

Mitochondrial function and intracellular calcium in anoxic cardiac myocytes

J. Y. Cheung, A. Leaf, and J. V. Bonventre

C18

Passive permeability of human red blood cells to calcium

M. K. McNamara and J. S. Wiley

C26

Effect of growth in low- Na^+ medium on transport sites in cultured heart cells

D. Kim and T. W. Smith

C32

Co^{2+} , low Ca^{2+} , and verapamil reduce mechanical activity in rat skeletal muscles

B. A. Kotsias, S. Muchnik, and C. A. Obejero Paz

C40

Electrophysiological characterization of single pregnant rat myometrial cells in short-term primary culture

P. Mollard, J. Mironneau, T. Amedee, and C. Mironneau

C47

Calcium-induced transient potassium efflux in human red blood cells

J. S. Adorante and R. I. Macey

C55

Isolation and characterization of plasma membranes from bovine carotid arteries

R. V. Sharma and R. C. Bhalla

C65

Evidence for two cellular sodium compartments in suspensions of smooth muscle cells

C. R. Scheid and A. W. Jones

C76

Phosphorylase kinase isozymes in normal and electrically stimulated skeletal muscles

J. C. Lawrence, Jr., J. A. Krsek, W. J. Salzgiver, J. F. Hiken, S. Salmons, and R. L. Smith

C84

Potassium channel selectivity in mouse pancreatic B cells

L. M. Rosario and E. Rojas

C90

Interaction of dihydropyridine Ca^{2+} agonist Bay K 8644 with normal and transformed pituitary cells

J. J. Enyeart, T. Aizawa, and P. M. Hinkle

C95

Radiation inactivation of multimeric enzymes: application to subunit interactions of adenylate cyclase

A. S. Verkman, K. L. Skorecki, and D. A. Ausiello

C103

Evidence for vasopressin activation of adenylate cyclase by subunit dissociation

K. L. Skorecki, A. S. Verkman, C. Y. Jung, and D. A. Ausiello

C115

Interactions of pH and K^+ conductance in cultured bovine retinal pigment epithelial cells

S. K. Keller, T. J. Jentsch, M. Koch, and M. Wiederholt

C124

Complete response to vasopressin requires epithelial organization in A6 cells in culture

M. A. Lang, J. Muller, A. S. Preston, and J. S. Handler

C138

Effect of length history on contractile behavior of canine tracheal smooth muscle

S. J. Gunst

C146

Submaximal sodium-lack contractures in rapidly perfused frog ventricular strips

N. Shepherd

C155

New amiloride analogue as hapten to raise anti-amiloride antibodies

T. R. Kleyman, R. Rajagopalan, E. J. Cragoe, Jr., B. F. Erlanger, and Q. Al-Awqati

C165

RAPID COMMUNICATIONS

- Synthetic atrial peptide inhibits intracellular calcium release in smooth muscle
K. D. Meisner, C. J. Taylor, and H. Saneii

C171

No. 2. FEBRUARY 1986

EDITORIAL REVIEW

- The amiloride-sensitive sodium channel
S. Sariban-Sohraby and D. J. Benos

C175

-
- Substrate metabolism of isolated jejunal epithelium: conservation of three-carbon units
R. T. Mallet, J. K. Kelleher, and M. J. Jackson C191
- Separation of hexose-transporting from nontransporting LLC-PK₁ cells on density gradients
E. R. Weiss and J. S. Cook C199
- Sodium requirement for insulin release: putative role in regulation of intracellular pH
T. J. Biden, D. Janjic, and C. B. Wollheim C207
- Variability of functional characteristics of MDCK cells
R. F. Husted, M. J. Welsh, and J. B. Stokes C214
- Stimulation of net active ion transport across alveolar type II cell monolayers
G. R. Cott, K. Sugahara, and R. J. Mason C222
- Cold adaptation in guinea pig at level of isolated brown adipocyte
J. Rafael, W. Fesser, and D. G. Nicholls C228
- Angiotensin II stimulates norepinephrine uptake in hypothalamus-brain stem neuronal cultures
C. Sumners and M. K. Raizada C236
- Calcium release rate in skinned skeletal muscle fibers measured with arsenazo III
P. M. Best and M. Fill C245
- Clonal variation of cadmium response in human tumor cell lines
M. D. Enger, J. G. Tesmer, G. L. Travis, and S. S. Barham C256
- Phosphagen and intracellular pH changes during contraction of creatine-depleted rat muscle
R. A. Meyer, T. R. Brown, B. L. Krilowicz, and M. J. Kushmerick C264
- Increased Ca²⁺ sensitivity of α_1 -adrenoceptor-stimulated contraction in SHR caudal artery
M. B. Aqel, R. V. Sharma, and R. C. Bhalla C275
- Characterization of the amiloride-sensitive Na⁺-H⁺ antiport of human neutrophils
S. Grinstein and W. Furuya C283
- Changes in intercellular electrical coupling of smooth muscle accompanying atrophy and hypertrophy
A. Bortoff and L. F. Sillin C292
- Alterations in activities of calmodulin and heat-stable calmodulin-binding protein in rat testis
Y. Koide, T. Ono, C. Ishinami, and K. Yamashita C299
- Cooperation between epithelial cells demonstrated by potassium transfer
M. L. S. Ledbetter, G. J. Young, and E. R. Wright C306
- Role of cell replication in regulation of Na-coupled hexose transport in LLC-PK₁ epithelial cells
A. Moran, J. S. Handler, and M. Hagan C314
- Effect of adenosine 3',5'-cyclic monophosphate on volume and cytoskeleton of MDCK cells
J. W. Mills and M. Lubin C319
- Inhibition of cycling and noncycling cross bridges in skinned smooth muscle by vanadate
R. A. Nayler and M. P. Sparrow C325

Relations between chord and slope conductances and equivalent electromotive forces <i>S. M. Thompson</i>	C333
---	------

RAPID COMMUNICATIONS

Inositol-1,4,5-trisphosphate injection mimics fertilization potentials in sea urchin eggs <i>B. E. Slack, J. E. Bell, and D. J. Benos</i>	C340
--	------

ANNOUNCEMENTS

C345

No. 3. MARCH 1986

INVITED REVIEW

The neural cell spectrin skeleton: a review <i>S. R. Goodman and I. S. Zagon</i>	C347
Voltage-dependent aminoglycoside blockade of the sarcoplasmic reticulum K ⁺ channel <i>Y. Oosawa and M. Sokabe</i>	C361
Rat skeletal muscle phosphorylase kinase: turnover and control of isozyme levels in culture <i>W. J. Salsgiver and J. C. Lawrence, Jr.</i>	C365
Oxygen dependence of mitochondrial function in isolated rat cardiac myocytes <i>F. G. Kennedy and D. P. Jones</i>	C374
Analysis of intracellular oxygenation of isolated adult cardiac myocytes <i>D. P. Jones and F. G. Kennedy</i>	C384
Calcium and proton buffering and diffusion in isolated cytoplasm from <i>Myxicola</i> axons <i>R. F. Abercrombie and C. E. Hart</i>	C391
Eicosonoid metabolism and β -adrenergic mechanisms in coronary arterial smooth muscle: potential compartmentation of cAMP <i>G. Rubanyi, P. Galvas, J. DiSalvo, and R. J. Paul</i>	C406
Failure of extracellular digestive enzymes to alter in vitro secretion by rat pancreas <i>A. Saluja, M. Saluja, R. E. Powers, M. J. Houlihan, and M. L. Steer</i>	C413
Quantitative use of weak bases for estimation of cellular pH gradients <i>M. H. Montrose and G. A. Kimmich</i>	C418
Volume regulation by <i>Amphiuma</i> red blood cells: cytosolic free Ca and alkali metal-H exchange <i>P. M. Cala, L. J. Mandel, and E. Murphy</i>	C423
Mapping subcellular distribution of Na ⁺ -K ⁺ -ATPase in rat parotid gland <i>C. N. Contreas, A. A. McDonough, T. R. Kozlowski, C. B. Hensley, R. L. Wood, and A. K. Mircheff</i>	C430
Coupled sodium-calcium transport in cultured chick heart cells <i>E. Murphy, D. M. Wheeler, A. LeFurgey, R. Jacob, L. A. Lobaugh, and M. Lieberman</i>	C442
Downregulation of vasopressin receptors in toad bladder <i>P. Eggena and C. L. Ma</i>	C453
Analysis of proteins in rabbit pulmonary surfactant using monoclonal antibodies <i>R. J. King, H. M. Martin, J. B. Baseman, and J. Morrison-Plummer</i>	C460
Effects of forskolin and cyclic nucleotides on isometric force in rat aorta <i>E. G. McMahon and R. J. Paul</i>	C468
Architecture, composition, and contractile properties of rat soleus muscle grafts <i>S. S. Segal, T. P. White, and J. A. Faulkner</i>	C474
Role of calcium and calmodulin in release of kallikrein and tonin from rat submandibular gland <i>S. R. Maitra, O. A. Carretero, S. W. Smith, and S. F. Rabito</i>	C480
Ba ²⁺ inhibition of VIP- and A23187-stimulated Cl ⁻ secretion by T ₈₄ cell monolayers <i>K. G. Mandel, J. A. McRoberts, G. Beuerlein, E. S. Foster, and K. Dharmasathaphorn</i>	C486

Control of gap junction formation in canine trachea by arachidonic acid metabolites <i>R. Agrawal and E. E. Daniel</i>	C495
Characterization of monoclonal antibodies to rabbit renal cortical cells <i>P. Ronco, M. Geniteau, P. Poujeol, C. Melcion, P. Verroust, and A. Vandewalle</i>	C506
Activators of protein kinase C inhibit sodium transport in A6 epithelia <i>M. Yanase and J. S. Handler</i>	C517

No. 4. APRIL 1986

INVITED REVIEW

Intrinsic, apparent, and effective affinities of co- and countertransport systems <i>W. D. Stein</i>	C523
---	------

MEMBRANE ATPASE AND HYPERTENSION

Membrane ATPase function in vascular smooth muscles in hypertension <i>K. Hermsmeyer</i>	C535
Na ⁺ -K ⁺ -ATPase in vascular smooth muscle <i>J. C. Allen, S. S. Navran, and A. M. Kahn</i>	C536
Alterations in active Na-K transport during mineralocorticoid-salt hypertension in the rat <i>L. Magliola, E. G. McMahon, and A. W. Jones</i>	C540
Small vessel membrane potential, sympathetic input, and electrogenic pump rate in SHR <i>W. J. Stekiel, S. J. Contney, and J. H. Lombard</i>	C547
Membrane ATPase mechanism of K ⁺ -return relaxation in arterial muscles of stroke-prone SHR and WKY <i>K. Hermsmeyer and D. Harder</i>	C557

Role of protein kinase C in inhibition of renin release caused by vasoconstrictors <i>A. Kurtz, J. Pfeilschifter, A. Hutter, C. Bührle, R. Nobiling, R. Taugner, E. Hackenthal, and C. Bauer</i>	C563
Dissociation between muramyl dipeptide-induced fever and changes in plasma metal levels <i>G. Riveau, M. Parant, C. Damais, F. Parant, and L. Chedid</i>	C572
Potassium-chloride cotransport in resealed human red cell ghosts <i>P. B. Dunham and P. J. Logue</i>	C578
Effect of prostaglandin E ₁ on DNA synthesis in vascular smooth muscle cells <i>N. E. Owen</i>	C584
Limited proteolysis of rabbit cardiac procathepsin D in a cell-free system <i>A. M. Samarel, S. W. Worobec, A. G. Ferguson, R. S. Decker, and M. Lesch</i>	C589
Calcium dependence of myosin phosphorylation and airway smooth muscle contraction and relaxation <i>W. T. Gerthoffer</i>	C597
The "coat" of kidney intercalated cell tubulovesicles does not contain clathrin <i>D. Brown and L. Orci</i>	C605
Evidence for separate cellular origins of sodium and acid-base transport in the turtle bladder <i>J. H. Durham and W. Nagel</i>	C609
Electroneutral secretion of bicarbonate by guinea pig gallbladder epithelium <i>J. M. Winterhager, C. P. Stewart, K. Heintze, and K.-U. Petersen</i>	C617
Role of prostaglandin release in the response of tight epithelia to Ca ²⁺ ionophores <i>D. Erlij, L. Gersten, G. Sterba, and H. F. Schoen</i>	C629
Role of monosaccharide transporter in vitamin C uptake by placental membrane vesicles <i>R. L. Ingermann, L. Stankova, and R. H. Bigley</i>	C637
Calmodulin activation and calcium regulation of parotid gland adenylate cyclase <i>M. T. Piascik, M. Babich, K. L. Jacobson, and E. L. Watson</i>	C642

Changes in intracellular sodium with chloride secretion in dog tracheal epithelium <i>S. R. Shorofsky, M. Field, and H. A. Fozzard</i>	C646
---	------

RAPID COMMUNICATIONS

Na ⁺ -Ca ²⁺ exchange contributes to increase of cytosolic Ca ²⁺ concentration during depolarization in heart muscle <i>S.-S. Sheu, V. K. Sharma, and A. Uglesity</i>	C651
Phosphorylation of myosin in permeabilized mammalian cardiac and skeletal muscle cells <i>H. L. Sweeney and J. T. Stull</i>	C657

ANNOUNCEMENTS

C661

No. 5. MAY 1986

INVITED REVIEW

Intracellular diffusion gradients of O ₂ and ATP <i>D. P. Jones</i>	C663
---	------

NaCl transport stimulates prostaglandin release in cultured renal epithelial (MDCK) cells <i>A. Kurtz, J. Pfeilschifter, C. D. A. Brown, and C. Bauer</i>	C676
LLC-PK ₁ cells: cloning of phenotypically stable subpopulations <i>A. Wohlwend, J.-D. Vassalli, D. Belin, and L. Orci</i>	C682
The number of chloride-cation cotransport sites on Ehrlich ascites cells measured with [³ H]bumetanide <i>E. K. Hoffmann, M. Schiødt, and P. Dunham</i>	C688
Renal transport and metabolism of nicotinic acid <i>S. Schuette and R. C. Rose</i>	C694
Protein secretion in lacrimal gland: α ₁ -β-adrenergic synergism <i>P. Mauduit, G. Herman, and B. Rossignol</i>	C704
Increased aerobic glucose oxidation by cAMP in cultured regenerated skeletal myotubes <i>D. L. Freerksen, N. A. Schroedl, G. V. W. Johnson, and C. R. Hartzell</i>	C713
Insulin-induced cytoplasmic alkalization and glucose transport in muscle cells <i>A. Klip, T. Ramlal, and E. J. Cragoe, Jr.</i>	C720
Polycations reduce vasopressin-induced water flow by endocytic removal of water channels <i>R. Beauwens, G. te Kronnie, J. Snauwaert, and P. A. in't Veld</i>	C729
Effects of insulin, adenosine, and prostaglandin on α-adrenergic-stimulated respiration in brown adipocytes <i>R. J. Schimmel and L. McCarthy</i>	C738
Amiloride analogues inhibit proximal tubule metabolism <i>S. P. Soltoff, E. J. Cragoe, Jr., and L. J. Mandel</i>	C744
Influence of surface pH on intracellular pH regulation in cardiac and skeletal muscle <i>B. Vanheel, A. de Hemptinne, and I. Leusen</i>	C748
Serotonin uptake by bovine pulmonary artery endothelial cells in culture. I. Characterization <i>S.-L. Lee and B. L. Fanburg</i>	C761
Serotonin uptake by bovine pulmonary artery endothelial cells in culture. II. Stimulation by hypoxia <i>S.-L. Lee and B. L. Fanburg</i>	C766
Biphasic concentration dependency of stimulation of myoblast differentiation by somatomedins <i>J. R. Florini, D. Z. Ewton, S. L. Falen, and J. J. Van Wyk</i>	C771
Calcium transients and resting levels in isolated smooth muscle cells as monitored with quin 2 <i>D. A. Williams and F. S. Fay</i>	C779

Multiple neuropeptides exert a direct effect on the same isolated single smooth muscle cell <i>N. L. Lassignal, J. J. Singer, and J. V. Walsh, Jr.</i>	C792
Photoinactivation of sodium-potassium-chloride cotransport in LLC-PK ₁ /Cl 4 cells by bumetanide <i>K. Amsler and R. Kinne</i>	C799

--- RAPID COMMUNICATIONS

Inositol trisphosphate enhances calcium release in skinned cardiac and skeletal muscle <i>T. M. Nosek, M. F. Williams, S. T. Zeigler, and R. E. Godt</i>	C807
---	------

--- ANNOUNCEMENTS

C812

No. 6. JUNE 1986

Energy metabolism of skeletal muscle biopsies stimulated anaerobically without load in vitro <i>D. A. Young, M. M.-Y. Chi, and O. H. Lowry</i>	C813
Effects of glucocorticoid treatment on cardiac protein synthesis and degradation <i>A. F. Clark, G. N. DeMartino, and K. Wildenthal</i>	C821
Characteristics of motor units in muscles of rats grafted with nerves intact <i>C. Côté and J. A. Faulkner</i>	C828
Muscle ammonia metabolism during isometric contraction in humans <i>A. Katz, K. Sahlin, and J. Henriksson</i>	C834
Role of intracellular calcium in cellular volume regulation <i>S. M. E. Wong and H. S. Chase, Jr.</i>	C841
Sulfhydryl substituents of the human erythrocyte hexose transport mechanism <i>R. E. Abbott, D. Schachter, E. R. Batt, and M. Flamm</i>	C853
Two different heavy chains are found in smooth muscle myosin <i>A. S. Rouner, M. M. Thompson, and R. A. Murphy</i>	C861
Receptor-independent sequestration of β -adrenergic ligands by alveolar type II cells <i>J. P. Fabisiak, S. R. Rannels, E. S. Vesell, and D. E. Rannels</i>	C871
Proliferation and differentiation of brown adipocytes from interstitial cells during cold acclimation <i>L. J. Bukowiecki, A. Gélœn, and A. J. Collet</i>	C880
Bradykinin and vasopressin stimulate Na ⁺ -K ⁺ -Cl ⁻ cotransport in cultured endothelial cells <i>T. A. Brock, C. Brugnara, M. Canessa, and M. A. Gimbrone, Jr.</i>	C888
Location of major antibody binding domains on α -subunit of dog kidney Na ⁺ -K ⁺ -ATPase <i>R. A. Farley, G. T. Ochoa, and A. Kudrow</i>	C896
Hypertonic cell volume regulation in mouse thick limbs. I. ADH dependency and nephron heterogeneity <i>S. C. Hebert</i>	C907
Hypertonic cell volume regulation in mouse thick limbs. II. Na ⁺ -H ⁺ and Cl ⁻ -HCO ₃ ⁻ exchange in basolateral membranes <i>S. C. Hebert</i>	C920
Aortic pressure as a determinant of cardiac protein degradation <i>E. E. Gordon, Y. Kira, L. M. Demers, and H. E. Morgan</i>	C932
Na ⁺ -K ⁺ regulation in cultured vascular smooth muscle cell of the spontaneously hypertensive rat <i>H. Tamura, L. Hopp, M. Kino, A. Tokushige, B. M. Searle, F. Khalil, and A. Aviv</i>	C939
Ouabain binding to cultured vascular smooth muscle cells of the spontaneously hypertensive rat <i>L. Hopp, F. Khalil, H. Tamura, M. Kino, B. M. Searle, A. Tokushige, and A. Aviv</i>	C948

Proton inhibition of chloride exchange: asynchrony of band 3 proton and anion transport sites?

M. A. Milanick and R. B. Gunn

C955

Dexamethasone inhibits prostaglandin release from rabbit coronary microvessel endothelium

R. M. Rosenbaum, C. D. Cheli, and M. E. Gerritsen

C970

MODELING METHODOLOGY FORUM

Network thermodynamic modeling of hormone regulation of active Na⁺ transport in cultured renal epithelium (A6)

M. L. Fidelman and D. C. Mikulecky

C978

Subject Index to Volume 19

C993

Author Index to Volume 19

C1001

American Journal of Physiology: Endocrinology and Metabolism

No. 1. JANUARY 1986

INVITED REVIEW

- Sodium retention after adrenal enucleation
R. D. Perrone, H. H. Bengele, and E. A. Alexander E1
-
- Insulin dose-dependent reductions in plasma amino acids in man
N. K. Fukagawa, K. L. Minaker, V. R. Young, and J. W. Rowe E13
- Potentialiation of hemorrhage-evoked catecholamine release by prior blood loss in cats
D. A. Bereiter and D. S. Gann E18
- Amino acid metabolism after λ -carrageenan injury to rat skeletal muscle
J. E. Albina, J. Shearer, B. Mastrofrancesco, and M. D. Caldwell E24
- Disk method for measuring effects of neurohypophysial hormones on urea permeability of toad bladder
P. Eggena E31
- Calcitriol corrects bone loss induced by oophorectomy in rats
M.-C. Faugere, S. Okamoto, H. F. DeLuca, and H. H. Malluche E35
- Response of alanine metabolism in humans to manipulation of dietary protein and energy intakes
R. D. Yang, D. E. Matthews, D. M. Bier, Z. M. Wen, and V. R. Young E39
- Enteral versus parenteral nutrition: comparison of energy metabolism in healthy subjects
O. Vernet, L. Christin, Y. Schutz, E. Danforth, Jr., and E. Jequier E47
- Dog inactive renin: biochemical characterization and secretion into renal plasma and lymph
V. J. Dzau, C. S. Wilcox, K. Sands, and P. Duncel E55
- cAMP augmentation of secretagogue-induced luteinizing hormone secretion
J. L. Turgeon and D. W. Waring E62
- Effect of rate of hemorrhage on sympathoadrenal catecholamine release in cats
D. A. Bereiter, A. M. Zaid, and D. S. Gann E69
- Effect of rate of hemorrhage on release of ACTH in cats
D. A. Bereiter, A. M. Zaid, and D. S. Gann E76
- Effects of tolbutamide on gluconeogenesis and glycolysis in isolated perfused rat liver
T. B. Patel E82
- Pituitary-adrenal function after transplantation in rats: dependence on age of the adrenal graft
W. C. Engeland E87
- Experimental chronic hypoxic neuropathy: relevance to diabetic neuropathy
P. A. Low, J. D. Schmelzer, K. K. Ward, and J. K. Yao E94

RAPID COMMUNICATIONS

- Rate-limiting steps for insulin-mediated glucose uptake into perfused rat hindlimb
K. Kubo and J. E. Foley E100
- Estradiol induces a shift in cultured cells that release prolactin or growth hormone
F. R. Boockfor, J. P. Hoeffler, and L. S. Frawley E103

ANNOUNCEMENTS

E106

No. 2. FEBRUARY 1986

- Secretin and its C-terminal hexapeptide potentiates insulin release in mouse islets
H. Kofod, B. Hansen, A. Lernmark, and C. J. Hedekov E107

Changes in protein turnover in rat uterus during pregnancy <i>A. J. Morton and D. F. Goldspink</i>	E114
Pituitary gland: one site of ultrashort-feedback regulation for control of thyrotropin <i>T. Kakita and W. D. Odell</i>	E121
Effect of angiotensin II, ATP, and ionophore A23187 on potassium efflux in adrenal glomerulosa cells <i>M. V. Lobo and E. T. Marusic</i>	E125
Rat lung metabolism after 3 days of continuous exposure to 0.6 ppm ozone <i>D. J. P. Bassett and E. Bowen-Kelly</i>	E131
Glucose metabolism in epitrochlearis muscle of acutely exercised and trained rats <i>T. A. Davis, S. Klahr, E. D. Tegtmeier, D. F. Osborne, T. L. Howard, and I. E. Karl</i>	E137
Effect of meal size and frequency on postprandial thermogenesis in dogs <i>J. LeBlanc and P. Diamond</i>	E144
Insulin processing by cultured hepatocytes <i>W. G. Blackard, R. M. Smith, and L. Jarett</i>	E148
Effects of diets high in refined carbohydrates on renal ammonium excretion in rats <i>H. G. Preuss, R. Fournier, J. Areas, and D. Slemmer</i>	E156
Effect of valinomycin on thyroid iodide transport and TSH-stimulated cAMP formation <i>J. R. Sherwin and J. W. Seaford</i>	E164
Regional ketone body utilization by rat brain in starvation and diabetes <i>R. A. Hawkins, A. M. Mans, and D. W. Davis</i>	E169
Body composition of two human cadavers by neutron activation and chemical analysis <i>G. S. Knight, A. H. Beddoe, S. J. Streat, and G. L. Hill</i>	E179
Acute exercise, epinephrine, and diabetes enhance insulin binding to skeletal muscle <i>B. Webster, S. R. Vigna, and T. Paquette</i>	E186
β -Adrenergic modulation of insulin binding in skeletal muscle <i>B. Webster, S. R. Vigna, T. Paquette, and D. J. Koerker</i>	E198
Norepinephrine inhibition of pulsatile LH release: receptor specificity <i>H. Bergen and P. C. K. Leung</i>	E205
Effect and mechanism of vagal nerve stimulation on somatostatin secretion in dogs <i>B. Ahrén, T. L. Paquette, and G. J. Taborsky, Jr.</i>	E212
Endotoxin treatment inhibits glucocorticoid induction of hepatic enzymes at a late induction step <i>G. M. Shackelford, S. F. Hart, and L. J. Berry</i>	E218

RAPID COMMUNICATIONS

Facultative thermogenesis induced by carbohydrate: a skeletal muscle component mediated by epinephrine <i>A. Astrup, J. Bülow, N. J. Christensen, J. Madsen, and F. Quaade</i>	E226
---	------

No. 3. MARCH 1986

A direct growth effect of growth hormone in rat hindlimb shown by arterial infusion <i>N. L. Schlechter, S. M. Russell, S. Greenberg, E. M. Spencer, and C. S. Nicoll</i>	E231
Effect of opiate-receptor blockade on normoglycemic and hypoglycemic glucoregulation <i>K. M. A. El-Tayeb, P. L. Brubaker, H. L. A. Lickley, E. Cook, and M. Vranic</i>	E236
LPS-caused secretion of corticosterone is mediated by histamine through histidine decarboxylase <i>S. Suzuki and K. Nakano</i>	E243
Glutamine blocks lipolysis and ketogenesis of fasting <i>E. Cersosimo, P. Williams, B. Hoxworth, W. Lacy, and N. Abumrad</i>	E248
Fetal recirculation of amniotic fluid arginine vasopressin <i>M. G. Ervin, M. G. Ross, R. D. Leake, and D. A. Fisher</i>	E253
Effect of hydrogen ion concentration on corticosteroid secretion <i>K. J. Radke, E. G. Schneider, R. E. Taylor, Jr., and R. E. Kramer</i>	E259

Generation of plasma free cholesterol from circulating lipoprotein-associated cholesteryl ester <i>I. J. Goldberg, R. S. Rosenfeld, I. Paul, and B. Leeman</i>	E265
Insulin resistance in acromegaly: defects in both hepatic and extrahepatic insulin action <i>I. Hansen, E. Tsalikian, B. Beaufrere, J. Gerich, M. Haymond, and R. Rizza</i>	E269
Increased brown adipose tissue thermogenesis in obese (<i>ob/ob</i>) mice fed a palatable diet <i>J. Himms-Hagen, S. Hogan, and G. Zaror-Behrens</i>	E274
Functional changes in luteinizing hormone-secreting cells from pre- and postpartum ewes <i>M. E. Wise, H. R. Sawyer, Jr., and T. M. Nett</i>	E282
A possible role of arachidonate metabolism in the mechanism of prolactin release <i>A. M. Judd, K. Koike, and R. M. MacLeod</i>	E288
Gluconeogenesis from labeled carbon: estimating isotope dilution <i>J. K. Kelleher</i>	E296
Response to glucose infusion in humans: role of changes in insulin concentration <i>R. R. Wolfe, J. H. F. Shaw, F. Jahoor, D. N. Herndon, and M. H. Wolfe</i>	E306
Comparison of glucose, LCT, and LCT plus MCT as calorie sources for parenterally nourished septic rats <i>T. P. Stein, R. C. Fried, M. H. Torosian, M. J. Leskiw, M. D. Schluter, R. G. Settle, and G. P. Buzby</i>	E312
Long-term effects of hypothalamic paraventricular lesion on CRF content and stimulated ACTH secretion <i>G. B. Makara, E. Stark, G. Kapocs, and F. A. Antoni</i>	E319
Triglyceride kinetics: effects of dietary glucose, sucrose, or fructose alone or with hyperinsulinemia <i>T. Kazumi, M. Vranic, and G. Steiner</i>	E325

SPECIAL COMMUNICATIONS

A method for large volume blood sampling and transfusion in rats <i>H.-R. Berthoud, W. B. Laughton, and T. L. Powley</i>	E331
---	------

RAPID COMMUNICATIONS

Interpulse interval sequence of LH in normal men essentially constitutes a renewal process <i>J. P. Butler, D. I. Spratt, L. St. L. O'Dea, and W. F. Crowley, Jr.</i>	E338
--	------

No. 4. APRIL 1986

Estrogen inhibition of LH and FSH secretion: effects of a GnRH antagonist <i>M. C. Charlesworth and N. B. Schwartz</i>	E341
Inhibition of hepatic glucose production by insulin in vivo in rats: contribution of glycolysis <i>J. Terrettaz, F. Assimacopoulos-Jeannet, and B. Jeanrenaud</i>	E346
Effect of ovarian sex steroids on osmoregulation and vasopressin secretion in the rat <i>W. M. Barron, J. Schreiber, and M. D. Lindheimer</i>	E352
Thermogenesis and sympathetic activity in BAT of overfed rats after adrenalectomy <i>D. Marchington, N. J. Rothwell, M. J. Stock, and D. A. York</i>	E362
Effects of local administration of GH and IGF-1 on longitudinal bone growth in rats <i>J. Isgaard, A. Nilsson, A. Lindahl, J.-O. Jansson, and O. G. P. Isaksson</i>	E367
Correction by insulin of disturbed TG-rich LP metabolism in rats with chronic renal failure <i>J. B. Roullet, B. Lacour, J. P. Yvert, and T. Druke</i>	E373
Urea concentration and ornithine decarboxylase in liver of female rats <i>Y. Hitier, O. Champigny, and G. Bourdel</i>	E377
Refined carbohydrate increases blood pressure and catecholamine excretion in SHR and WKY <i>R. D. Fournier, C. C. Chiueh, I. J. Kopin, J. J. Knapka, D. DiPette, and H. G. Preuss</i>	E381

Aggressive behavior in adult male mice elevates serum nerve growth factor levels <i>J. Lakshmanan</i>	E386
Glucoregulatory role of cortisol and epinephrine interactions studied in adrenalectomized dogs <i>C. Gauthier, K. El-Tayeb, M. Vranic, and H. L. A. Lickley</i>	E393
Insulin binding and glucose transport activity in cardiomyocytes of a diabetic rat <i>E. C. Almira, A. R. Garcia, and B. R. Boshell</i>	E402
Removal of infused amino acids by splanchnic and leg tissues in humans <i>R. A. Gelfand, M. G. Glickman, R. Jacob, R. S. Sherwin, and R. A. DeFronzo</i>	E407
Glucose turnover and oxidation are increased in the iron-deficient anemic rat <i>S. A. Henderson, P. R. Dallman, and G. A. Brooks</i>	E414
By 95 days of gestation CRF increases plasma ACTH and cortisol in ovine fetuses <i>B. Y. Hargrave and J. C. Rose</i>	E422
Circulating forms of somatostatinlike immunoreactivity in human plasma <i>S. E. Shoelson, K. S. Polonsky, T. Nakabayashi, J. B. Jaspan, and H. S. Tager</i>	E428
Increased pulmonary uptake of exogenous polyamines after unilateral pneumonectomy <i>D. E. Rannels, J. L. Addison, and R. A. Bennett</i>	E435
Blood flow distribution in tissues of perfused rat hindlimb preparations <i>J. Gorski, D. A. Hood, and R. L. Terjung</i>	E441
Oxygen cost of twitch and tetanic isometric contractions of rat skeletal muscle <i>D. A. Hood, J. Gorski, and R. L. Terjung</i>	E449
Regulation of interorganal glutamine flow in metabolic acidosis <i>T. C. Welbourne, V. Phromphetcharat, G. Givens, and S. Joshi</i>	E457
Effects of sodium on iodide transport in primary cultures of turtle thyroid cells <i>S. Y. Chow, Y. C. Yen-Chow, H. S. White, and D. M. Woodbury</i>	E464
Pituitary-dependent and -independent secretion of CS caused by bacterial endotoxin in rats <i>S. Suzuki, C. Oh, and K. Nakano</i>	E470
Involvement of glutathione oxidation reduction in parathyroid hormone secretion <i>J. J. Morrissey</i>	E475
Genotype dependency of adaptation in adipose tissue metabolism after short-term overfeeding <i>E. T. Poehlman, J.-P. Després, M. Marcotte, A. Tremblay, G. Thériault, and C. Bouchard</i>	E480

SPECIAL COMMUNICATIONS

Cluster analysis: a simple, versatile, and robust algorithm for endocrine pulse detection <i>J. D. Veldhuis and M. L. Johnson</i>	E486
--	------

ANNOUNCEMENTS

	E494
--	------

No. 5. MAY 1986

Response of ketone body metabolism to exercise during transition from postabsorptive to fasted state <i>F. Féry and E. O. Balasse</i>	E495
In vitro exhaustion of pancreatic β -cells <i>M. Hoenig, L. C. MacGregor, and F. M. Matschinsky</i>	E502
TRH and GRF stimulate release of growth hormone through different mechanisms <i>M. Szabo</i>	E512
Metabolic effects of chronic infusions of epinephrine and norepinephrine in rats <i>R. Racotta, L. Ramirez-Altamirano, and E. Velasco-Delgado</i>	E518
H ₁ action of histamine on aldosterone and cortisol secretion by perfused dog adrenal <i>T. Aikawa, I. Matsumoto, T. Hirose, T. Morikawa, and Y. Tsujimoto</i>	E523
Insulin metabolism by liver, muscle, and kidneys from spontaneously diabetic rats <i>R. Rabkin, G. M. Reaven, and C. E. Mondon</i>	E530

Metabolic and circulatory studies of fetal lamb at midgestation <i>A. W. Bell, J. M. Kennaugh, F. C. Battaglia, E. L. Makowski, and G. Meschia</i>	E538
Renal catabolism of ¹²⁵ I-glicentin <i>J. M. López-Novoa, J. C. Santos, L. M. Villamediana, F. J. Garrote, L. Thim, A. J. Moody, and I. Valverde</i>	E545
Different production and decay rates of six renin forms isolated from rat plasma <i>F. M. Sessler, J. A. Jacquez, and R. L. Malvin</i>	E551
Rapid effects of insulin on in vitro translational activity of specific mRNA in diabetic rat heart <i>R. Shanker, W. E. Neeley, and W. H. Dillmann</i>	E558
Isovolemic hypotension in ovine fetus: plasma arginine vasopressin response and urinary effects <i>M. G. Ross, M. G. Ervin, R. D. Leake, O. Habeeb, and D. A. Fisher</i>	E564
Effect of training on insulin binding to rat skeletal muscle sarcolemmal vesicles <i>G. K. Grinditch, R. J. Barnard, S. A. Kaplan, and E. Sternlicht</i>	E570
Oscillations enhance the efficiency and stability of glucose disposal <i>B. D. Marsh, D. J. Marsh, and R. N. Bergman</i>	E576
Desensitization and redistribution of β -adrenergic receptors on human mononuclear leukocytes <i>H. J. Motulsky, E. M. S. Cunningham, A. DeBlasi, and P. A. Insel</i>	E583

MODELING METHODOLOGY FORUM

Estimation of insulin sensitivity and glucose clearance from minimal model: new insights from labeled IVGTT <i>C. Cobelli, G. Pacini, G. Toffolo, and L. Saccà</i>	E591
---	------

RAPID COMMUNICATIONS

Leucine and isoleucine activate skeletal muscle branched-chain α -keto acid dehydrogenase in vivo <i>R. P. Aftling, K. P. Block, and M. G. Buse</i>	E599
---	------

ANNOUNCEMENTS

	E605
--	------

No. 6. JUNE 1986

Synergistic improvement of glucose tolerance by sucrose feeding and exercise training <i>A. L. Vallerand, J. Lupien, and L. J. Bukowiecki</i>	E607
Relation between plasma and tissue parameters of leucine metabolism in fed and starved rats <i>J. A. Vazquez, H. S. Paul, and S. A. Adibi</i>	E615
Role of glutamine in adaptations in nitrogen metabolism during fasting <i>E. Cersosimo, P. E. Williams, P. M. Radosevich, B. T. Hoxworth, W. W. Lacy, and N. N. Abumrad</i>	E622
Stimulation of corticosterone secretion in vitro by brief ACTH exposure <i>L. D. Keith, B. Tam, and M. A. Greer</i>	E629
Effect of sepsis on activity of pyruvate dehydrogenase complex in skeletal muscle and liver <i>T. C. Vary, J. H. Siegel, T. Nakatani, T. Sato, and H. Aoyama</i>	E634
Effect of infusing epinephrine on liver and muscle glycogenolysis during exercise in rats <i>D. A. Arnall, J. C. Marker, R. K. Conlee, and W. W. Winder</i>	E641
Sex-related differences in GH secretion in rat using reverse hemolytic plaque assay <i>K. Y. Ho, D. A. Leong, Y. N. Sinha, M. L. Johnson, W. S. Evans, and M. O. Thorner</i>	E650
Effects of short-term hyperglycemia on insulin secretion in normal humans <i>R. E. Ferner, L. Ashworth, B. Tronier, and K. G. M. M. Alberti</i>	E655

In vivo metabolic changes as studied longitudinally after ventromedial hypothalamic lesions <i>L. Pénicaud, F. Rohner-Jeanrenaud, and B. Jeanrenaud</i>	E662
Adaptive changes in insulin and glucagon secretion during cold acclimation in the rat <i>C. I. W. Edwards and R. J. Howland</i>	E669
Kinetics of zinc uptake and exchange by primary cultures of rat hepatocytes <i>S. E. Pattison and R. J. Cousins</i>	E677
Effect of free fatty acids on blood amino acid levels in humans <i>E. Ferrannini, E. J. Barrett, S. Bevilacqua, R. Jacob, M. Walesky, R. S. Sherwin, and R. A. DeFronzo</i>	E686
Changes in leucine kinetics during meal absorption: effects of dietary leucine availability <i>S. Nissen and M. W. Haymond</i>	E695
Influence of calcium and other divalent cations on protein turnover in rat skeletal muscle <i>V. Baracos, R. E. Greenberg, and A. L. Goldberg</i>	E702
Heredity and changes in hormones and metabolic rates with short-term training <i>E. T. Poehlman, A. Tremblay, A. Nadeau, J. Dussault, G. Thériault, and C. Bouchard</i>	E711
Comparison of thermogenic effect of fructose and glucose in normal humans <i>L. Tappy, J.-P. Randin, J.-P. Felber, R. Chiolerio, D. C. Simonson, E. Jequier, and R. A. DeFronzo</i>	E718
Role of vitamin D in neonatal skeletal development in rats <i>C. H. E. Mathews, R. Brommage, and H. F. DeLuca</i>	E725
Dopamine inhibits maitotoxin-stimulated pituitary $^{45}\text{Ca}^{2+}$ efflux and prolactin release <i>I. S. Login, A. M. Judd, and R. M. MacLeod</i>	E731
Determination of total adipose tissue and body fat in women by computed tomography, ^{40}K , and tritium <i>L. Sjöström, H. Kvist, Å. Cederblad, and U. Tylén</i>	E736

ANNOUNCEMENTS

<i>Subject Index to Volume 13</i>	E747
<i>Author Index to Volume 13</i>	E755

American Journal of Physiology: Gastrointestinal and Liver Physiology

No. 1. JANUARY 1986

EDITORIAL REVIEW

Intestinal ion transport and diarrheal disease

J. D. Fondacaro

G1

Cell death (apoptosis) during pancreatic involution after raw soya flour feeding in the rat

P. S. Oates, R. G. H. Morgan, and A. M. Light

G9

Effect of exocrine pancreatic secretagogues on circulating somatostatin in dogs

C. Beglinger, G. Ribes, I. Whitehouse, M. M. Loubatières-Mariani, U. Grötzing, and K. Gyr

G15

Substance P: a potent inhibitor of the canine small intestine in vivo

J. E. T. Fox and E. E. Daniel

G21

Waxing and waning of slow waves in intestinal musculature

N. Suzuki, C. L. Prosser, and W. DeVos

G28

Na-H exchange in rat liver basolateral but not canalicular plasma membrane vesicles

R. H. Moseley, P. J. Meier, P. S. Aronson, and J. L. Boyer

G35

Concentration-dependent effects of disulfonic stilbenes on colonic chloride transport

P. L. Smith, S. K. Sullivan, and R. D. McCabe

G44

Effect of selective muscarinic antagonists on peristaltic contractions in opossum smooth muscle

R. J. Gilbert and W. J. Dodds

G50

Inhibitory peptidergic neurons: functional difference between somatostatin and enkephalin in myenteric plexus

W. M. Yau, J. A. Dorsett, and M. L. Yother

G60

Thromboxane synthesis inhibition and postprandial intestinal hyperemia and oxygenation

M. J. Mangino and C. C. Chou

G64

Actomyosin, collagen, and cell hypertrophy in intestinal muscle after jejunoileal bypass

R. L. Bowers, C. Eeckhout, and N. W. Weisbrodt

G70

Mechanism of inhibition of gastric acid secretion by SCN^- : interrelation of SCN^- flux and inhibition

W. W. Reenstra and J. G. Forte

G76

Salivary response to food in humans and its effect on gastric acid secretion

C. T. Richardson and M. Feldman

G85

In vitro effects of β -casomorphins on ion transport in rabbit ileum

M. Hautefeuille, V. Brantl, A.-M. Dumontier, and J.-F. Desjeux

G92

Pharmacological characterization of opossum distal colonic muscularis mucosae in vitro

W. H. Percy and J. Christensen

G98

Pancreaticobiliary factors in the modulation of small intestinal enterokinase in the rat

B. M. Newman, P. C. Lee, H. Tajiri, D. R. Cooney, and E. Lebenthal

G103

Effect of sugars and amino acids on intestinal Cl^- transport and intracellular Na^+ , K^+ , and Cl^- activity

J. F. White, K. Burnup, and D. Ellingsen

G109

Chloride transport of frog gastric fundus: effects of omeprazole

M. J. Starlinger, M. J. Hollands, P. H. Rowe, J. B. Matthews, and W. Silen

G118

Calcitonin gene-related peptide-induced selective inhibition of gastric acid secretion in dogs

T. Pappas, H. T. Debas, J. H. Walsh, J. Rivier, and Y. Taché

G127

Dose-response effects of indomethacin and PGE ₂ on electromechanical activity of in vivo rabbit ileum <i>K. L. Koch, A. Dwyer, and G. H. Jeffries</i>	G135
Anionic basis of fluid secretion by rat pancreatic acini in vitro <i>K. T. F. Seow, J. M. Lingard, and J. A. Young</i>	G140
Somatostatin induces ectopic activity fronts via a local intestinal mechanism during fed state or pentagastrin <i>E. Schippers, J. Janssens, G. Vantrappen, M. Vandeweerdt, and T. L. Peters</i>	G149
Absorption of pantothenic acid in rat and chick intestine <i>D. K. Fenstermacher and R. C. Rose</i>	G155
Effects of viscosity and fluid outflow on postcibal gastric emptying of solids <i>J. H. Meyer, Y. Gu, J. Elashoff, T. Reedy, J. Dressman, and G. Amidon</i>	G161
Electrogastrographic characteristics of interdigestive migrating complex in humans <i>H. Geldof, E. J. van der Schee, and J. L. Grashuis</i>	G165
Centrally mediated stimulation of jejunal water and electrolyte secretion by calcitonin in dogs <i>M. P. Primi and L. Bueno</i>	G172
Postnatal maturation of enterocytes in sparse-fur mutant mice <i>C. Malo, I. A. Qureshi, and J. Letarte</i>	G177
Localization of chloride secretion in rabbit colon: inhibition by anthracene-9-carboxylic acid <i>P. J. Horvath, P. C. Ferriola, M. M. Weiser, and M. E. Duffey</i>	G185
Gastric motility is a major factor in cold restraint-induced lesion formation in rats <i>T. Garrick, S. Buack, and P. Bass</i>	G191
Ontogeny of pepsin secretory response to secretagogues in isolated rat gastric glands <i>J. Yahav, P. C. Lee, and E. Lebenthal</i>	G200
Interaction of flow and resistance in maintenance of portal hypertension in a rat model <i>E. Sikuler and R. J. Groszmann</i>	G205
Myoelectric correlates of colonic motor complexes and contractile activity <i>S. K. Sarna</i>	G213
Glucose-coupled sodium absorption in the developing rat colon <i>G. D. Potter and S. M. Burlingame</i>	G221
Contraction pattern of opossum gallbladder during fasting and after feeding <i>I. Takahashi, M. K. Kern, W. J. Dodds, W. J. Hogan, S. K. Sarna, K. H. Soergel, and Z. Itoh</i>	G227
Kinetics of glutathione efflux from isolated rat hepatocytes <i>T. Y. Aw, M. Ookhtens, C. Ren, and N. Kaplowitz</i>	G236
Histamine H ₂ -receptor involvement in the regulation of gastric emptying <i>A. Dubois and D. O. Castell</i>	G244
Effects of taurodeoxycholate on in vivo water and solute transport in rat jejunum in absence and presence of calcium <i>H. V. Ammon, D. S. Cho, R. L. Loeffler, and K. L. Reetz</i>	G248
Cholecystokinin mediates feedback regulation of pancreatic enzyme secretion in rats <i>D. S. Louie, D. May, P. Miller, and C. Ouyang</i>	G252
Quantification of axial forces in rectum-anal canal of the cat <i>J. Krier and T. Adams</i>	G260
Anamnestic stimulus-specific myoelectric responses associated with intestinal immunity in the rat <i>J. M. Palmer and G. A. Castro</i>	G266

ANNOUNCEMENTS

G274

No. 3. MARCH 1986

- Lysolecithin-lipid interactions in disruption of the canine gastric mucosal barrier
W. C. Duane, A. P. McHale, and C. E. Sievert G275
- Source of activator calcium in isolated guinea pig and human gastric muscle cells
K. N. Bitar, G. M. Burgess, J. W. Putney, Jr., and G. M. Makhlof G280
- Boundary cells between longitudinal and circular layers: essential for electrical slow waves in cat intestine
N. Suzuki, C. L. Prosser, and V. Dahms G287
- Enterohepatic circulation of bile acids in pigs: diurnal pattern and effect of a reentrant biliary fistula
V. Legrand-Defretin, C. Juste, T. Corring, and A. Rerat G295
- Colonic formation of soft feces in rabbits: a role for endogenous prostaglandins
M. Pairet, T. Bouyssou, and Y. Ruckebusch G302
- Effects of tachykinins on gastric acid and pepsin secretion and on gastric outflow in the Atlantic cod, *Gadus morhua*
B. Holstein and C. Cederberg G309
- Pancreatic tissue oxygenation during secretory stimulation
S. L. Harper, V. H. Pitts, D. N. Granger, and P. R. Kvietys G316
- Sodium-dependent transport of P_i by an established intestinal epithelial cell line (CaCo-2)
I. Mohrmann, M. Mohrmann, J. Biber, and H. Murer G323
- Inhibition of gastrin release by gastric inhibitory peptide mediated by somatostatin
M. M. Wolfe and G. M. Reel G331
- Role of substance P nerves in longitudinal smooth muscle contractions of the esophagus
J. Crist, J. Gidda, and R. K. Goyal G336
- Hepatic processing of cholecystokinin peptides. I. Structural specificity and mechanism of hepatic extraction
G. J. Gores, N. F. LaRusso, and L. J. Miller G344
- Hepatic processing of cholecystokinin peptides. II. Cellular metabolism, transport, and biliary excretion
G. J. Gores, L. J. Miller, and N. F. LaRusso G350
- Measurement of function in isolated single smooth muscle cells
K. N. Bitar and G. M. Makhlof G357
- Cellular messengers of stimulants of pepsinogen secretion from isolated frog esophageal mucosa
T. Shirakawa and B. I. Hirschowitz G361
- Intestinal phosphate absorption: influence of vitamin D and non-vitamin D factors
D. B. N. Lee, M. W. Walling, and N. Brautbar G369
- Isolated canine ileal mucosal cells in short-term culture: a model for study of neurotensin release
D. L. Barber, A. M. J. Buchan, J. H. Walsh, and A. H. Soll G374
- Regulation of neurotensin release from canine enteric primary cell cultures
D. L. Barber, A. M. J. Buchan, J. H. Walsh, and A. H. Soll G385

No. 4. APRIL 1986

- Physiological role and localization of cholecystokinin release in dogs
S. J. Konturek, J. Tasler, J. Bilski, A. J. de Jong, J. B. M. J. Jansen, and C. B. Lamers G391
- Secretion of pyruvate and lactate in pancreatic juice induced by acetazolamide or secretin
T. Kuroshima, S. Himeno, M. Kurokawa, K. Tsuji, and S. Tarui G398
- Action of cholecystokinin analogues on exocrine and endocrine rat pancreas
M. Otsuki, Y. Okabayashi, A. Ohki, T. Oka, M. Fujii, T. Nakamura, N. Sugiura, N. Yanaihara, and S. Baba G405

Intestinal calcium transport in the spontaneously hypertensive rat: response to calcium depletion <i>H. P. Schedl, D. L. Miller, R. L. Horst, H. D. Wilson, K. Natarajan, and T. Conway</i>	G412
Intestinal interaction of bile acids, phospholipids, dietary fibers, and cholestyramine <i>D. Gallaher and B. O. Schneeman</i>	G420
Intestinal anaphylaxis in the rat: jejunal response to in vitro antigen exposure <i>M. H. Perdue and D. G. Gall</i>	G427
Potassium secretion by rabbit descending colon: effects of adrenergic stimuli <i>P. L. Smith and R. D. McCabe</i>	G432
Pancreatic acinar cells in monolayer culture: direct trophic effects of caerulein in vitro <i>C. D. Logsdon and J. A. Williams</i>	G440
Intestinal sugar transport: does the Na ⁺ gradient provide all the energy? <i>R. D. Baker</i>	G448
Active K ⁺ absorption by the gastric mucosa: inhibition by omeprazole <i>W. W. Reenstra, J. D. Bettencourt, and J. G. Forte</i>	G455
Dehydroascorbic acid and ascorbic acid transport systems in the guinea pig ileum <i>J. Bianchi, F. A. Wilson, and R. C. Rose</i>	G461
Transport of butyric acid in vascularly perfused anuran small intestine: importance of pH and anion transport <i>D. Hollander, E. M. Gerard, and C. A. R. Boyd</i>	G469
Active potassium secretion by rabbit proximal colon <i>S. K. Sullivan and P. L. Smith</i>	G475
Seasonal fluctuations in pepsinogen secretion from frog esophageal peptic glands <i>T. Shirakawa and B. I. Hirschowitz</i>	G484
Electrolyte permeabilities of pancreatic zymogen granules: implications for pancreatic secretion <i>R. C. De Lisle and U. Hopfer</i>	G489
Importance of interstitial matrix hydration in intestinal chylomicron transport <i>P. Tso, J. A. Barrowman, and D. N. Granger</i>	G497
Vagal control of canine postprandial upper gastrointestinal motility <i>K. E. Hall, T. Y. El-Sharkawy, and N. E. Diamant</i>	G501
Effects of NaSCN and omeprazole on resistance and potential of fundus of <i>Rana pipiens</i> <i>W. S. Rehm, G. Carrasquer, and M. Schwartz</i>	G511
Role of ethanol metabolism in the ethanol-induced increase in splanchnic circulation <i>J. P. McKaigney, F. J. Carmichael, V. Saldivia, Y. Israel, and H. Orrego</i>	G518
Na ⁺ -H ⁺ and Cl ⁻ -OH ⁻ (HCO ₃ ⁻) exchange in gastric glands <i>A. M. Paradiso, P. A. Negulescu, and T. E. Machen</i>	G524
Chronic portal hypertension: effects on gastrointestinal blood flow distribution <i>J. N. Benoit, W. A. Womack, R. J. Korthuis, W. A. Wilborn, and D. N. Granger</i>	G535
Gamma radiation affects active electrolyte transport by rabbit ileum: basal Na and Cl transport <i>P. J. Gunter-Smith</i>	G540
Pentagastrin on neurotransmitter enzyme activities in the rat gastrointestinal tract <i>M. M. Heitkemper and J. F. Shaver</i>	G546

RAPID COMMUNICATIONS

Vasoactive intestinal peptide receptor antagonist [4Cl-D-Phe ⁶ , Leu ¹⁷]VIP <i>S. J. Pandolf, K. Dharmasathaphorn, M. S. Schoeffield, W. Vale, and J. Rivier</i>	G553
--	------

LETTERS TO THE EDITOR

Role of CCK in pancreatic exocrine response to amino acids and fats <i>M. V. Singer, B. Stabile and R. S. Stubbs</i>	G558
---	------

ANNOUNCEMENTS

G560

EDITORIAL REVIEW

An analysis of intestinal calcium transport across the rat intestine <i>F. Bronner, D. Pansu, and W. D. Stein</i>	G561
Relationships between duodenal motility and pancreatic secretion in fasted and fed dogs <i>S. J. Konturek, P. J. Thor, J. Bilski, W. Bielanski, and J. Laskiewicz</i>	G570
Pentagastrin and gastric mucosal blood flow <i>L. Holm-Rutli and T. Berglinde</i>	G575
Potency of natural and synthetic canine gastrin-releasing decapeptide on canine antral muscle <i>E. A. Mayer, J. R. Reeve, Jr., S. Khawaja, P. Chew, J. Elashoff, B. Clark, and J. H. Walsh</i>	G581
Effect of systemic acid-base disorders on ileal intracellular pH and ion transport <i>J. D. Wagner, P. Kurtin, and A. N. Charney</i>	G588
Maturation of cholecystokinin receptors in pancreatic acini of rats <i>Y. K. Leung, P. C. Lee, and E. Lebenthal</i>	G594
Morphological and biochemical changes of the pancreas in rats treated with acetaldehyde <i>A. P. N. Majumdar, G. D. Vesenka, M. A. Dubick, G. S. M. Yu, J. M. DeMorrow, and M. C. Geokas</i>	G598
Prostaglandin interaction with histamine release and parietal cell activity in isolated gastric glands <i>O. Nylander, T. Berglinde, and K. J. Öbrink</i>	G607
Ontogeny of gastric mucosal permeability responses to luminal H ⁺ and bile salt in the rat <i>B. L. Tepperman, D. B. Barr, and M. C. Palmer</i>	G617
Measurements of intracellular pH in <i>Necturus</i> antral mucosa by microelectrode technique <i>S. W. Ashley, D. I. Soybel, and L. Y. Cheung</i>	G625
Does corticosterone affect gastric mucosal cell growth during development? <i>C.-C. Tseng and L. R. Johnson</i>	G633
Sites of resistance changes with inhibition of acid secretion in frog stomach <i>W. S. Rehm, G. Carrasquer, and M. Schwartz</i>	G639
Only free bile acid drives ileal absorption of taurocholate <i>B. A. Luxon, P. D. King, and E. L. Forker</i>	G648
Ileal and colonic propulsive behavior: contribution of enteric neural circuits <i>W. A. Weems and N. W. Weisbrodt</i>	G653
Vagal nerve stimulation causes noncholinergic dilatation of gastric arterioles <i>T. Morishita and P. H. Guth</i>	G660
Contrasting cholinergic dependence of pancreatic and gallbladder responses to cholecystokinin <i>K. M. Strah, T. N. Pappas, R. L. Melendez, and H. T. Debas</i>	G665
Microsphere method in measurement of blood flow to wall layers of small intestine <i>E. Dregelid, S. Haukaas, S. Amundsen, G. E. Eide, O. Søreide, J. Lekven, and K. Svanes</i>	G670
Specific binding and degradation of somatostatin by membrane vesicles from pig gut <i>M. Weber, T. Cole, and J. M. Conlon</i>	G679
Phorbol esters stimulate somatostatin release from cultured cells <i>K. Sugano, J. Park, A. Soll, and T. Yamada</i>	G686
Effects of calcium antagonist TMB-8 on active Na and Cl transport in rabbit ileum <i>M. Donowitz, S. Cusolito, and G. W. G. Sharp</i>	G691
Ca ²⁺ , phorbol ester-, and cAMP-stimulated enzyme secretion from permeabilized rat pancreatic acini <i>T. Kimura, K. Imamura, L. Eckhardt, and I. Schulz</i>	G698

RAPID COMMUNICATIONS**Effect of refeeding on polyamine biosynthesis in isolated enterocytes***L. R. Fitzpatrick, P. Wang, B. E. Eikenburg, M. K. Haddox, and L. R. Johnson*

G709

ANNOUNCEMENTS

G714

No. 6. JUNE 1986

EDITORIAL REVIEW**Formation and transport of chylomicrons by enterocytes to the lymphatics***P. Tso and J. A. Balint*

G715

**Measurement of resistance of barriers to solute transport in vivo
in rat jejunum***H. Westergaard, K. H. Holtermüller, and J. M. Dietschy*

G727

**Carotid sinus baroreceptor modulation of fluid transport and blood flow
in the feline jejunum***H. Sjövall, P. Butcher, B. Biber, and J. Martner*

G736

**CNS actions of calcitonin gene-related peptide on gastric acid secretion
in conscious dogs***H. J. Lenz, S. E. Hester, R. P. Saik, and M. R. Brown*

G742

Contributions of ischemia and reperfusion to mucosal lesion formation*D. A. Parks and D. N. Granger*

G749

Ion transport by neonatal rabbit distal colon*G. D. Potter and S. M. Burlingame*

G754

Distribution of epidermal growth factor binding sites in the adult rat liver*J.-G. Chabot, P. Walker, and G. Pelletier*

G760

Potassium selectivity of frog gastric luminal membrane*D. K. Kasbekar*

G765

Measurement of resistance to flow across antroduodenal area during fasting*F. Mearin, F. Azpiroz, and J.-R. Malagelada*

G773

Na⁺-H⁺ exchange in rat colonic brush-border membrane vesicles*E. S. Foster, P. K. Dudeja, and T. A. Brasitus*

G781

Intestinal mucosa in diabetes: synthesis of total proteins and sucrase-isomaltase*W. A. Olsen, E. Perchellet, and R. L. Malinowski*

G788

Blood flow limitation of stimulated gastric acid secretion in the rat*F. W. Leung, G. L. Kauffman, Jr., J. Washington,**O. U. Scremin, and P. H. Guth*

G794

**O₂ uptake in periportal and pericentral regions of liver lobule
in perfused liver***T. Matsumura, F. C. Kauffman, H. Meren, and R. G. Thurman*

G800

Inhibition of ATP levels by quinidine in a human colonic epithelial cell line*K. Dharmasathaphorn, P. Huott, C. A. Cartwright, J. A. McRoberts,**K. G. Mandel, and G. Buewerlein*

G806

**Cholecystokinin, carbachol, gastrin, histamine, and forskolin increase [Ca²⁺]_i
in gastric glands***C. S. Chew*

G814

**Absorption of glucose polymers from canine jejunum deprived
of pancreatic amylase***B. Kerzner, H. R. Sloan, H. J. McClung, C. C. Chidi,**A. H. Ailabouni, and C. Seckel*

G824

Indomethacin and turnover of gastric mucosal cells in the rat*A. Baumgartner, H. R. Koelz, and F. Halter*

G830

Effect of duodenal bile acid delivery on fasting intestinal motor activity*R. B. Scott*

G836

Endogenous prostaglandins in gastric alkaline response in the rat stomach after damage <i>K. Takeuchi, S. Ueki, and H. Tanaka</i>	G842
Processing of epidermal growth factor by suckling and adult rat intestinal cells <i>R. K. Rao, W. Thornburg, M. Korc, L. M. Matrisian, B. E. Magun, and O. Koldovsky</i>	G850

RAPID COMMUNICATIONS

New proglumide-analogue CCK receptor antagonists: very potent and selective for peripheral tissues <i>C. Niederau, M. Niederau, J. A. Williams, and J. H. Grendell</i>	G856
---	------

<i>Subject Index to Volume 13</i>	G861
<i>Author Index to Volume 13</i>	G869

CORRIGENDA

Volume 249, November 1985

Volume 12, November 1985

Page G557 and contents: G. L. Telford, M. Hoshmonai, A. J. Moses, and J. H. Szurszewski. "Morphine initiates migrating myoelectric complexes by acting on peripheral opioid receptors." Dr. Moshe Hashmonai's last name was spelled incorrectly as Hoshmonai.

American Journal of Physiology: Heart and Circulatory Physiology

No. 1. JANUARY 1986

Altered phospholipid metabolism in pressure-overload hypertrophied hearts <i>D. K. Reibel, B. O'Rourke, K. A. Foster, H. Hutchinson, C. E. Uboh, and R. L. Kent</i>	H1
Effect of hypoxia and hypercapnia on neurohypophyseal blood flow <i>D. F. Hanley, D. A. Wilson, and R. J. Traystman</i>	H7
Electrical conductivity and its use in estimating an equivalent pore size for arterial endothelium <i>M. P. O'Donnell and F. F. Vargas</i>	H16
Verapamil preserves adenine nucleotide pool in cardiomyopathic Syrian hamster <i>J. Wikman-Coffelt, R. Sievers, W. W. Parmley, and G. Jasmin</i>	H22
Multiple tracer dilution estimates of D- and 2-deoxy-D-glucose uptake by the heart <i>J. Kuikka, M. Levin, and J. B. Bassingthwaite</i>	H29
Differential sympathetic-parasympathetic interactions in sinus node and AV junction <i>F. Urthaler, B. H. Neely, G. R. Hageman, and L. R. Smith</i>	H43
Neurohumoral contributions to chronic angiotensin-induced hypertension <i>C. A. Bruner and G. D. Fink</i>	H52
Conditions for dipyridamole potentiation of skeletal muscle active hyperemia <i>R. E. Klabunde</i>	H62
Fluid and protein shifts after postural changes in humans <i>H. Hinghofer-Szalkay and M. Moser</i>	H68
Augmented catecholamine uptake by the heart during hemorrhage in the conscious dog <i>O. L. Woodman, J. Amano, T. H. Hintze, and S. F. Vatner</i>	H76
Sensory denervation of the kidney attenuates renovascular hypertension in the rat <i>J. M. Wyss, N. Aboukarsh, and S. Oparil</i>	H82
Stretch-dependent (myogenic) tone in rabbit ear resistance arteries <i>J. J. Hua and J. A. Bevan</i>	H87
Interaction of right and left carotid sinus baroreflexes in the dog <i>A. S. Greene, M. J. Brunner, and A. A. Shoukas</i>	H96
Reversibility of diabetic cardiomyopathy with insulin in rabbits <i>F. S. Fein, B. Miller-Green, B. Zola, and E. H. Sonnenblick</i>	H108
Failure of pyruvate to salvage myocardium after prolonged ischemia <i>D. D. Gutterman, W. M. Chilian, C. L. Eastham, T. Inou, C. W. White, and M. L. Marcus</i>	H114
5-Hydroxytryptamine delays relaxation time of norepinephrine-induced vasoconstriction <i>S. Manzini, C. A. Maggi, and A. Meli</i>	H121

SPECIAL COMMUNICATIONS

Biplane ventriculography in the rat <i>J. L. Heckman, L. Garvin, T. Brown, W. Stevenson-Smith, W. P. Santamore, and P. R. Lynch</i>	H131
Considerations in use of microspheres for flow measurements in anesthetized rat <i>R. F. Tuma, U. S. Vasthare, G. L. Irion, and M. P. Wiedeman</i>	H137

RAPID COMMUNICATIONS

β -Adrenoceptor-mediated release of angiotensin II from mesenteric arteries <i>M. Nakamaru, E. K. Jackson, and T. Inagami</i>	H144
--	------

LETTERS TO THE EDITOR

Aortic wall creep and acute baroreceptor resetting

*H. M. Coleridge, J. C. G. Coleridge, E. R. Poore, A. M. Roberts,
and H. D. Schultz; P. A. Munch and A. M. Brown*

H149

No. 2. FEBRUARY 1986

Left ventricular regional work from wall tension-area loop in canine heart

*Y. Goto, H. Suga, O. Yamada, Y. Igarashi,
M. Saito, and K. Hiramori*

H151

Acute aortic stenosis in the conscious dog: effects of inotropic state on heart rate

I. H. Zucker, M. J. Niebauer, and K. G. Cornish

H159

Peak isovolumic pressure-volume relation of puppy left ventricle

H. Suga, O. Yamada, Y. Goto, and Y. Igarashi

H167

Supply-to-demand ratio for oxygen determines formation of adenosine by the heart

H. Bardenheuer and J. Schrader

H173

Noninvasive measurements of nonlinear arterial elasticity

J. Megerman, J. E. Hasson, D. F. Warnock, G. L. L'Italien, and W. M. Abbott

H181

Role of renal nerves in rats with low-sodium, one-kidney hypertension

R. C. Vari, R. H. Freeman, J. O. Davis, and W. D. Sweet

H189

Neurogenic antinatriuresis during development of acute cardiac tamponade

J. L. Osborn and M. T. Lawton

H195

Cat carotid body oxygen metabolism and chemoreception described by a two-cytochrome model

P. K. Nair, D. G. Buerk, and W. J. Whalen

H202

Improvement in relaxation by nifedipine in hypoxic isometric cat papillary muscle

*J. E. Carter, I. Palacios, W. H. Frist, S. Rosenthal,
J. B. Newell, and W. J. Powell, Jr.*

H208

Metabolic response of skeletal muscle to ischemia

*K. Harris, P. M. Walker, D. A. G. Mickle, R. Harding, R. Gatley,
G. J. Wilson, B. Kuzon, N. McKee, and A. D. Romaschin*

H213

Skeletal muscle vasodilation during electrical stimulation of the preoptic recess

K. G. Proctor and S. L. Bealer

H221

Lowering calcium in the nucleus tractus solitarius causes hypotension and bradycardia

*S. Higuchi, A. Takeshita, H. Higashi, N. Ito, T. Imaizumi,
H. Matsuguchi, and M. Nakamura*

H226

Fastigial nucleus cardiovascular response and brain stem lesions in the beagle

K. J. Dormer, J. A. Andrezik, R. J. Person, J. T. Braggio, and R. D. Foreman

H231

In vitro myocardial performance after lethal and nonlethal doses of endotoxin

K. H. McDonough, B. A. Brumfield, and C. H. Lang

H240

Augmentation of sarcolemmal Ca by anionic amphiphile: contractile response of three ventricular tissues

G. A. Langer and T. L. Rich

H247

Gradients in fiber shortening and metabolism across ischemic left ventricular wall

F. W. Prinzen, T. Arts, G. J. van der Vusse, W. A. Coumans, and R. S. Reneman

H255

Ultrastructure and function of isolated myocytes after calcium depletion and repletion

J. S. Frank, A. J. Brady, S. Farnsworth, and G. Mottino

H265

Transmural coronary flow reserve patterns in dogs

M. T. Grattan, F. L. Hanley, M. B. Stevens, and J. I. E. Hoffman

H276

Histamine-induced protein leakage in hypertensive rats: inhibition by verapamil

F. N. Miller, I. G. Joshua, J. T. Fleming, and N. Parekh

H284

Vascular anatomy and hydrostatic pressure profile in the hamster cheek pouch

M. J. Davis, P. N. Ferrer, and R. W. Gore

H291

A venous outflow method for continuously monitoring cerebral blood flow in the rat <i>S. Morii, A. C. Ngai, K. R. Ko, and H. R. Winn</i>	H304
Na ⁺ -H ⁺ exchange is present in sarcolemmal vesicles from dog superior mesenteric artery <i>A. M. Kahn, H. Shelat, and J. C. Allen</i>	H313

SPECIAL COMMUNICATIONS

Improved technique for monitoring electrocardiograms during exposure to radio-frequency radiation <i>W. P. Watkinson and C. J. Gordon</i>	H320
--	------

RAPID COMMUNICATIONS

Two electrophysiologically distinct types of cultured pacemaker cells from rabbit sinoatrial node <i>R. D. Nathan</i>	H325
--	------

LETTERS TO THE EDITOR

Comments on "Pressure and tone dependence of coronary diastolic input impedance and capacitance" <i>N. Westerhof and R. Krams; J. M. Canty, Jr., F. J. Klocke, and R. E. Mates</i>	H330
---	------

No. 3. MARCH 1986

Differential effect of thyroxine on atrial and ventricular isomyosins in rats <i>J.-L. Samuel, L. Rappaport, I. Syrový, C. Wisniewsky, F. Marotte, R. G. Whalen, and K. Schwartz</i>	H333
Continuous blood densitometry: fluid shifts after graded hemorrhage in animals <i>H. Hinghofer-Szalkay</i>	H342
Fatty acid metabolism in hearts containing elevated levels of CoA <i>G. D. Lopaschuk, C. A. Hansen, and J. R. Neely</i>	H351
Effects of changing Ca ²⁺ -to-H ⁺ ratio on Ca ²⁺ uptake by cardiac sarcoplasmic reticulum <i>D. O. Levitsky and D. S. Benevolensky</i>	H360
Effects of verapamil and diltiazem on human platelet function <i>V. P. Addonizio, Jr., C. A. Fisher, J. F. Strauss III, Y. T. Wachtfogel, R. W. Colman, and M. E. Josephson</i>	H366
Beneficial actions of superoxide dismutase and catalase in stunned myocardium of dogs <i>G. J. Gross, N. E. Farber, H. F. Hardman, and D. C. Warltier</i>	H372
Regional differences of myocyte hypertrophy and three-dimensional deformation of the heart <i>T. Kuribayashi, K. Furukawa, H. Katsume, H. Ijichi, and Y. Iyata</i>	H378
Dural sinus pressure: various aspects in human brain surgery in children and adults <i>T. Iwabuchi, E. Sobata, K. Ebina, H. Tsubakisaka, and M. Takiguchi</i>	H389
Automaticity in atrioventricular valve leaflets of rabbit heart <i>G. J. Rozanski and J. Jalife</i>	H397
Ventricular function and morphology in chick embryo from stages 18 to 29 <i>E. B. Clark, N. Hu, J. L. Dummett, G. K. Vandekieft, C. Olson, and R. Tomanek</i>	H407
Influence of pacing site on canine left ventricular force-interval relationship <i>D. Burkhoff and K. Sagawa</i>	H414
Adriamycin stimulates low-affinity Ca ²⁺ binding and lipid peroxidation but depresses myocardial function <i>P. K. Singal and G. N. Pierce</i>	H419
Circulatory changes during spontaneous motor activity: role of arterial baroreflexes <i>J. Ludbrook and S. J. Potocnik</i>	H426

Blood flow through vasa vasorum in arteries and veins: effects of luminal PO ₂ <i>D. D. Heistad, M. L. Armstrong, and S. Amundsen</i>	H434
Vasopressin and renin response to plasma volume loss in spontaneously hypertensive rats <i>C. D. Sladek, M. L. Blair, Y.-H. Chen, and R. W. Rockhold</i>	H443
Electrotonic interactions between aggregates of chick embryo cardiac pacemaker cells <i>R. D. Veenstra and R. L. DeHaan</i>	H453
Preload reserve and mechanisms of afterload mismatch in normal conscious dog <i>J.-D. Lee, T. Tajimi, J. Patrilli, and J. Ross, Jr.</i>	H464
Reactive hyperemia following one-beat coronary occlusions in the awake dog <i>R. J. Bache and D. S. Hess</i>	H474
Endothelial cell uptake of adenosine in canine skeletal muscle <i>M. W. Gorman, J. B. Bassingthwaight, R. A. Olsson, and H. V. Sparks</i>	H482
Differences in affinity of cardiac β -adrenergic receptors for [³ H]dihydroalprenolol <i>K. H. Muntz, T. A. Calianos, D. T. Vandermolen, J. T. Willerson, and L. M. Buja</i>	H490
Unilateral and bilateral sympathetic effects on cerebral blood flow during normocapnia <i>D. W. Busija</i>	H498
Effects of oligomycin and acidosis on rates of ATP depletion in ischemic heart muscle <i>W. Rouslin, J. L. Erickson, and R. J. Solaro</i>	H503
Role of adenosine in hyperemic response of coronary blood flow in microembolization <i>M. Hori, M. Inoue, M. Kitakaze, Y. Koretsune, K. Iwai, J. Tamai, H. Ito, A. Kitabatake, T. Sato, and T. Kamada</i>	H509
Effect of vibration on a canine cutaneous artery <i>L. E. Lindblad, R. R. Lorenz, J. T. Shepherd, and P. M. Vanhoutte</i>	H519
Rhythmic coronary arterial contractions: changes with time and membrane potential <i>K. D. Keef and G. Ross</i>	H524

SPECIAL COMMUNICATIONS

Construction of a multipolar electrode system referenced and anchored to endocardium for study of arrhythmias <i>S. J. Worley, W. M. Smith, and R. E. Ideker</i>	H530
---	------

ANNOUNCEMENTS

H537

No. 4. APRIL 1986

TERMINOLOGY

Terminology for mass transport and exchange <i>J. B. Bassingthwaight, F. P. Chinard, C. Crone, C. A. Goresky, N. A. Lassen, R. S. Reneman, and K. L. Zierler</i>	H539
Vagally mediated regulation of renal function in conscious primates <i>S. F. Vatner, W. T. Manders, and D. R. Knight</i>	H546
Proteolysis of the platelet surface: dissociation of shape change from aggregation <i>E. Kordecki, Y. H. Ehrlich, D. H. Hardwick, and R. H. Lenox</i>	H550
Role of adenosine in coronary autoregulation <i>F. L. Hanley, M. T. Grattan, M. B. Stevens, and J. I. E. Hoffman</i>	H558
Effects of digitalis intoxication on pacemaker rhythm and synchronization in rabbit sinus node <i>K. Takayanagi and J. Jalife</i>	H567
Adenosine deaminase attenuates canine coronary vasodilation during systemic hypoxia <i>G. F. Merrill, H. F. Downey, and C. E. Jones</i>	H579

Cardiovascular and renal responses to chronic vasopressin infusion <i>A. J. Brown, T. E. Lohmeier, R. G. Carroll, and E. F. Meydrech</i>	H584
Influence of exogenously generated oxidant species on myocardial function <i>A. S. Blaustein, L. Schine, W. W. Brooks, B. L. Fanburg, and O. H. L. Bing</i>	H595
Antihypertensive effect of thyroidectomy in SHR: associated changes in heart performance <i>R. L. Rodgers and J. H. McNeill</i>	H600
End-systolic pressure-diameter relationships during pulsus alternans in intact pig hearts <i>W. P. Miller, A. J. Liedtke, and S. H. Nellis</i>	H606
Contractile responses to ouabain and K ⁺ -free solution in aorta from hypertensive rats <i>R. S. Moreland, T. C. Major, and R. C. Webb</i>	H612
Left ventricular relaxation in the filling and nonfilling intact canine heart <i>E. L. Yellin, M. Hori, C. Yoran, E. H. Sonnenblick, S. Gabbay, and R. W. M. Frater</i>	H620
Effect of canine cardiac nerves on heart rate, rhythm, and pacemaker location <i>R. B. Schuessler, J. P. Boineau, A. C. Wylds, D. A. Hill, C. B. Miller, and W. R. Roeske</i>	H630
Adrenergic vasoconstriction lessens transmural steal during coronary hypoperfusion <i>H. J. Nathan and E. O. Feigl</i>	H645
Postrest inotropy in rabbit ventricle: Na ⁺ -Ca ²⁺ exchange determines sarcoplasmic reticulum Ca ²⁺ content <i>J. L. Sutko, D. M. Bers, and J. P. Reeves</i>	H654
Aortic caliber changes during development of hypertension in freely moving rats <i>L. C. Michelini and E. M. Krieger</i>	H662
Measurement of instantaneous viscoelastic properties by impedance-frequency curve of the ventricle <i>Y. Koiwa, R. Hashiguchi, T. Ohyama, S. Isoyama, S. Satoh, H. Suzuki, and T. Takishima</i>	H672
Assessment of slope of end-systolic pressure-volume line of in situ dog heart <i>Y. Igarashi and H. Suga</i>	H685

RAPID COMMUNICATIONS

Calcitonin gene-related peptide as potential neurotransmitter in guinea pig right atrium <i>A. Saito, S. Kimura, and K. Goto</i>	H693
Two calcium currents in a smooth muscle cell line <i>M. E. Friedman, G. Suarez-Kurtz, G. J. Kaczorowski, G. M. Katz, and J. P. Reuben</i>	H699

No. 5. MAY 1986

WIGGERS LECTURE

Introduction <i>B. R. Duling</i>	H705
Some consequences of capillary permeability to macromolecules: Starling's hypothesis reconsidered <i>E. M. Renkin</i>	H706

Endothelium-dependent and independent relaxation of aortic rings from hypertensive rats <i>J. Van de Voorde and I. Leusen</i>	H711
α -Adrenoceptor subtypes and diltiazem actions in isolated human coronary arteries <i>N. Toda</i>	H718
Dobutamine-induced cardiac adaptations: comparison with exercise-trained and sedentary rats <i>W. R. Davidson, Jr., S. P. Banerjee, and C.-S. Liang</i>	H725

Electrophysiological properties of cultured adult rat ventricular cardiac muscle cells <i>C. F. Meier, Jr., G. M. Briggs, and W. C. Claycomb</i>	H731
Determination of effects of internal countershock by direct cardiac recordings during normal rhythm <i>P. G. Colavita, P. Wolf, W. M. Smith, F. R. Bartram, M. Hardage, and R. E. Ideker</i>	H736
Heterogeneous response of subsarcolemmal heart mitochondria to calcium <i>J. W. Palmer, B. Tandler, and C. L. Hoppel</i>	H741
Naloxone enhances myocardial responses to isoproterenol in dog isolated heart-lung <i>J. L. Caffrey, C. B. Wooldridge, and J. F. Gaugl</i>	H749
Vasoactive intestinal peptide: vasodilatation and cyclic AMP generation <i>P. Ganz, A. W. Sandrock, S. C. Landis, J. Leopold, M. A. Gimbrone, Jr., and R. W. Alexander</i>	H755
Enhanced response of arterioles to oxygen during development of hypertension in SHR <i>J. H. Lombard, M. E. Hess, and W. J. Stekiel</i>	H761
Periodic cutaneous blood flow during postocclusive reactive hyperemia <i>J. K. Wilkin</i>	H765
Antagonism of forskolin effects by adenosine in isolated hearts and ventricular myocytes <i>G. A. West, G. Isenberg, and L. Belardinelli</i>	H769
Analysis of phases of contraction during graded acute myocardial ischemia <i>M. Akaishi, R. M. Schneider, R. J. Mercier, J. B. Agarwal, R. H. Helfant, and W. S. Weintraub</i>	H778
Comparison of effects of ryanodine and caffeine on rat ventricular myocardium <i>J. L. Sutko, L. J. Thompson, A. A. Kort, and E. G. Lakatta</i>	H786
Effect of endorphins on heart rate and blood pressure in adult dogs <i>G. G. Haddad, H. J. Jeng, and T. L. Lai</i>	H796
Effect of hypoxia and hypercapnia on ACE activity in the cerebral microcirculation of anesthetized dogs <i>B. R. Pitt, G. Lister, C. A. Dawson, and J. H. Linehan</i>	H806
Oxygen-derived free radicals, endothelium, and responsiveness of vascular smooth muscle <i>G. M. Rubanyi and P. M. Vanhoutte</i>	H815
Superoxide anions and hyperoxia inactivate endothelium-derived relaxing factor <i>G. M. Rubanyi and P. M. Vanhoutte</i>	H822
Diameter and blood flow of skeletal muscle venules during local flow regulation <i>S. D. House and P. C. Johnson</i>	H828
Microvascular pressure in venules of skeletal muscle during arterial pressure reduction <i>S. D. House and P. C. Johnson</i>	H838
Reduced chronotropic responsiveness of the heart in experimental uremia <i>J. F. E. Mann, K. H. Jakobs, J. Riedel, and E. Ritz</i>	H846
Carbohydrate and fatty acid metabolism of cultured adult cardiac myocytes <i>I. Probst, R. Spahr, C. Schweickhardt, D. H. Hunneman, and H. M. Piper</i>	H853
Thyroidectomy of SHR: effects on ventricular relaxation and on SR calcium uptake activity <i>R. L. Rodgers, S. Black, S. Katz, and J. H. McNeill</i>	H861
Acute resetting of baroreceptor reflex in rabbits: a central component <i>D. L. Kunze</i>	H866
Differing hemodynamic responses to atrial natriuretic factor in two models of hypertension <i>M. Volpe, R. E. Sosa, F. B. Müller, M. J. F. Camargo, N. Glorioso, J. H. Laragh, T. Maack, and S. A. Atlas</i>	H871
Anticoagulant active heparin-like molecules from mast cell-deficient mice <i>J. A. Marcum, J. B. McKenney, S. J. Galli, R. W. Jackman, and R. D. Rosenberg</i>	H879

RAPID COMMUNICATIONS

Denervation increases myogenic tone in a resistance artery in the growing rabbit ear
E. I. Mangiarua, E. H. Joyce, and R. D. Bevan H889

Enhanced adrenergic constriction of iliac artery with removal of endothelium in conscious dogs
M. A. Young and S. F. Vatner H892

No. 6. JUNE 1986

Cell flow path influences transit time through striated muscle capillaries
I. H. Sarelius H899

Microvascular hemodynamics during systemic hemodilution and hemoconcentration
H. H. Lipowsky and J. C. Firrell H908

Prolonged responsiveness to ouabain in hypertrophied rat heart: physiological and biochemical evidence
L. G. Lelievre, J. M. Maixent, P. Lorente, C. Mouas, D. Charlemagne, and B. Swynghedauw H923

Cardiac myocyte stiffness following extraction with detergent and high salt solutions
A. J. Brady and S. P. Farnsworth H932

Interactions among reflex compensatory systems for posthemorrhage hypotension
H. Hosomi, S. Katsuda, H. Morita, Y. Nishida, and S. Koyama H944

Adrenal medullary and cortical blood flow during hemorrhage
M. J. Breslow, A. Mennen, R. C. Koehler, and R. J. Traystman H954

Feline left ventricle does not always operate at optimum power output
G. J. Van den Horn, N. Westerhof, and G. Elzinga H961

Myocardial flow during tachycardia in dogs with chronic left ventricular hypertrophy
J. C. Rembert and J. C. Greenfield, Jr. H968

Methylene blue and ETYA block flow-dependent dilation in canine femoral artery
L. Kaiser, S. S. Hull, Jr., and H. V. Sparks, Jr. H974

Effects of heart rate on extracellular $[K^+]$ accumulation during myocardial ischemia
J. Weiss and K. I. Shine H982

Effects of circulating catecholamines on hepatic blood volume in anesthetized cats
C. V. Greenway, R. Dettman, F. Burczynski, and D. S. Sitar H992

Factors regulating basal metabolism of the isolated perfused rabbit heart
C. L. Gibbs and G. Kotsanas H998

Relationship between inotropy and relaxation in rat myocardium
D. Chemla, Y. Lecarpentier, J. L. Martin, M. Clergue, A. Antonetti, and P. Y. Hatt H1008

Endothelial extraction of tracer water is independent of temperature in dog lungs
F. P. Chinard and W. O. Cua H1017

Alterations in ventricular excitability in conscious dogs during development of chronic heart failure
C. W. White, M. J. Mirro, D. D. Lund, D. J. Skorton, N. G. Pandian, and R. E. Kerber H1022

Adenosine's role in regulating basal coronary arteriolar tone
H. Gewirtz, R. A. Olsson, D. L. Brautigan, P. R. Brown, and A. S. Most H1030

Fetal O_2 consumption in sheep during controlled long-term reductions in umbilical blood flow
D. F. Anderson, C. M. Parks, and J. J. Faber H1037

Vascular reactivity of contralateral kidney in awake Goldblatt hypertensive dog
B. G. Zimmerman H1043

Influence of training following bilateral stenosis of the femoral artery in rats
G. M. Mathien and R. L. Terjung H1050

Myocardial extraction and retention of 2-iododesmethylinipramine: a novel flow marker <i>S. E. Little, J. M. Link, K. A. Krohn, and J. B. Bassingthwaite</i>	H1060
α_1 - And α_2 -adrenoceptor stimulation: changes in venous capacitance in intact dogs <i>C. P. Appleton, R. W. Lee, G. V. Martin, M. Olajos, and S. Goldman</i>	H1071
Effect of fatty acid on performance and lipid content of hearts from diabetic rabbits <i>L. E. Fields, A. Daugherty, and S. R. Bergmann</i>	H1079
Platelet activating factor alters calcium homeostasis in cultured vascular endothelial cells <i>T. A. Brock and M. A. Gimbrone, Jr.</i>	H1086
Thyrotropin releasing hormone in hypovolemia: a hemodynamic evaluation in the rat <i>A.-L. Sirén, E. Powell, and G. Feuerstein</i>	H1093
Prostaglandins do not mediate arteriolar oxygen reactivity <i>W. F. Jackson</i>	H1102
Enhancement of α - and β -adrenoceptor responses by elevations in vascular tone in pulmonary circulation <i>A. L. Hyman and P. J. Kadowitz</i>	H1109
α_1 -Adrenergic constriction limits coronary flow and cardiac function in running dogs <i>P. A. Gwirtz, S. P. Overn, H. J. Mass, and C. E. Jones</i>	H1117
Adenosine regulates blood flow and glucose uptake in adipose tissue of dogs <i>S. E. Martin and E. L. Bockman</i>	H1127
Right atrial volume during hemorrhage in the dog <i>D. E. Carlson, K. W. Burchard, and D. S. Gann</i>	H1136

RAPID COMMUNICATIONS

Flow-induced release of endothelium-derived relaxing factor <i>G. M. Rubanyi, J. C. Romero, and P. M. Vanhoutte</i>	H1145
--	-------

<i>Subject Index to Volume 19</i>	H1151
<i>Author Index to Volume 19</i>	H1159

American Journal of Physiology: Regulatory, Integrative and Comparative Physiology

No. 1. JANUARY 1986

Effects of α -adrenergic blockade on cardiovascular responses to static exercise in cats <i>T. G. Waldrop, M. Bielecki, W. J. Gonyea, and J. H. Mitchell</i>	R1
Involvement of protein synthesis in circadian clock of <i>Aplysia</i> eye <i>D. P. Lotshaw and J. W. Jacklet</i>	R5
Corticosteroids and plasma restitution after hemorrhage and hypothalamic lesions <i>S. L. Bealer</i>	R18
Ionic requirements for intracellular pH regulation in rainbow trout hepatocytes <i>P. J. Walsh</i>	R24
Attenuation of hindlimb vasodilation in heat-stressed baboons during dehydration <i>R. M. Thornton and D. W. Proppe</i>	R30
Diurnal variations in cardiovascular integration <i>B. T. Engel</i>	R36
Renal excretion in gull chicks: effect of parathyroid hormone and calcium loading <i>N. B. Clark and L. L. S. Mok</i>	R41
Postnatal development of pulmonary alveoli: modulation in rats by thyroid hormones <i>D. Massaro, N. Teich, and G. D. Massaro</i>	R51
Elastic energy storage in rigorized skeletal muscle cells under physiological loading conditions <i>J. G. Tidball and T. L. Daniel</i>	R56
Heterogeneous mechanical response of rat knee menisci to thermomechanical stress <i>R. F. Zernicke, A. C. Vailas, S. R. Shaw, R. A. Bogey, T. J. Hart, and J. Matsuda</i>	R65
Phosphofructokinase control in muscle: nature and reversal of pH-dependent ATP inhibition <i>G. P. Dobson, E. Yamamoto, and P. W. Hochachka</i>	R71
Vascular smooth muscle responsiveness in a hibernator: effects of season and temperature <i>V. M. Miller, W. L. Miller, and F. E. South</i>	R77
α_2 -Noradrenergic feeding rhythm in paraventricular nucleus: relation to corticosterone <i>P. Bhakthavatsalam and S. F. Leibowitz</i>	R83
Lower intestinal modification of ureteral urine in hydrated house sparrows <i>D. L. Goldstein and E. J. Braun</i>	R89
Brain temperature changes coupled to sleep states persist during interleukin 1-enhanced sleep <i>J. Walter, D. Davenne, S. Shoham, C. A. Dinarello, and J. M. Krueger</i>	R96
Neurotransmitter modulation of VIP release from cat cerebral cortex <i>J.-Y. Wang, T. L. Yaksh, G. J. Harty, and V. L. W. Go</i>	R104
Radioiodide transfer across sheep placenta <i>J. F. Canning, T. E. Stacey, R. H. T. Ward, and R. D. H. Boyd</i>	R112
Central action of glucagon in rat hypothalamus <i>A. Inokuchi, Y. Oomura, N. Shimizu, and T. Yamamoto</i>	R120
Glucose transport and metabolism in the brain <i>P. J. Robinson and S. I. Rapoport</i>	R127

SPECIAL COMMUNICATIONS

Fetal auditory brain stem response: external and intrauterine auditory stimulation <i>M. A. Plessinger and J. R. Woods, Jr.</i>	R137
Technique for continuous measurement of compliance in isolated vascular segments <i>L. B. Bell, E. J. Zuperku, and J. P. Kampine</i>	R142

- Propylthiouracil causes phase delays and circadian period lengthening in male and female hamsters
L. P. Morin, M. L. Gavin, and J. E. Ottenweller R151
- Effects of ovine prolactin on calcium uptake and distribution in *Oreochromis mossambicus*
G. Flik, J. C. Fenwick, Z. Kolar, N. Mayer-Gostan, and S. E. Wendelaar Bonga R161
- Effects of cold acclimation in dystrophic hamsters: reduction of heart necrosis
M. Desautels and R. A. Dulos R167
- Microcomputer-assisted metabolic studies of voluntary diving of Weddell seals
M. Guppy, R. D. Hill, R. C. Schneider, J. Quist, G. C. Liggins, W. M. Zapol, and P. W. Hochachka R175
- Mechanisms of adrenergic control of blood pressure in developing rats
E. Mills and P. G. Smith R188
- Angiotensin II attenuates baroreflexes at nucleus tractus solitarius of rats
R. Casto and M. I. Phillips R193
- Photic cues induce multiple neuroendocrine adjustments in testicular function
J. L. Blank and C. Desjardins R199
- Prostaglandin E₂ and muscle proteolysis: effect of burn injury and cycloheximide
C. J. McKinley and J. Turinsky R207
- Can cultured teleost hepatocytes show temperature acclimation?
M. Koban R211
- Effects of atriopeptin infusion versus effects of left atrial stretch in awake dogs
K. L. Goetz, B. C. Wang, P. G. Geer, W. D. Sundet, and P. Needleman R221
- Independent Na⁺ and Cl⁻ active transport by urinary bladder epithelium of brook trout
W. S. Marshall R227
- Fetal renal contribution to amniotic fluid osmolality during maternal hypertonicity
L. L. Woods R235
- Renin, ACTH, and adrenocortical function during hypoxia and hemorrhage in conscious rats
H. Raff, R. B. Sandri, and T. P. Segerson R240
- Effects of ovarian hormones on energy balance and brown adipose tissue thermogenesis
D. Richard R245
- Interference with central actions of angiotensin II suppresses sodium appetite
M. L. Weiss, K. E. Moe, and A. N. Epstein R250
- Studies on avian erythrocyte metabolism. XIV. Effect of CO₂ and pH on P₅₀ in the chicken
R. Isaacks, P. Goldman, and C. Kim R260
- Interaction of osmotic and volume stimuli in regulation of neurohypophyseal secretion in rats
E. M. Stricker and J. G. Verbalis R267
- Metabolic response to a specific lipid-depleting factor in parabiotic rats
R. B. S. Harris and R. J. Martin R276
- Effects of sodium depletion and angiotensin II on osmotic regulation of vasopressin
C. E. Wade, L. C. Keil, and D. J. Ramsay R287
- Pantothenic acid transport and metabolism in the central nervous system
R. Spector R292
- Oxygen equilibrium curve shape and allohemoglobin interaction in sheep whole blood
L. A. Maginniss, A. J. Olszowska, and R. B. Reeves R298
- Water and nonelectrolyte permeability in brain synaptosomes isolated from normal and uremic rats
A. S. Verkman and C. L. Fraser R306
- Ontogeny of epinephrine-induced anorexia in rats
A. M. Rodriguez-Zendejas, G. Chambert, M. C. Lora-Vilchis, A. N. Epstein, and M. Russek R313

Effect of deep hypoxia on acid-base balance in trout: role of ion transfer processes <i>S. Thomas, B. Fievet, and R. Motais</i>	R319
Peptide nature of two mosquito natriuretic factors <i>D. H. Petzel, H. H. Hagedorn, and K. W. Beyenbach</i>	R328
Diluting segment in avian kidney. I. Characterization of transepithelial voltages <i>H. Nishimura, M. Imai, and M. Ogawa</i>	R333
Diluting segment in avian kidney. II. Water and chloride transport <i>T. Miwa and H. Nishimura</i>	R341
Carbonic acid buffer changes during complete brain ischemia <i>R. P. Kraig, W. A. Pulsinelli, and F. Plum</i>	R348
Alterations in β -adrenergic stimulation of myocardial adenylate cyclase in endotoxic rats <i>F. D. Romano and S. B. Jones</i>	R358
Endogenous hormones and regulation of uterine blood flow during pregnancy <i>D. Caton and P. S. Kalra</i>	R365
Food restriction and reproductive development: male and female mice and male rats <i>G. D. Hamilton and F. H. Bronson</i>	R370
Body temperature and rate of O ₂ consumption in Chinese pangolins <i>M. E. Heath and H. T. Hammel</i>	R377
Effects of diet and photoperiod on NE turnover and GDP binding in Siberian hamster brown adipose tissue <i>J. F. McElroy, P. W. Mason, J. M. Hamilton, and G. N. Wade</i>	R383
Dissociation of sympathetic and thermogenic activity in brown fat of Syrian hamsters <i>J. M. Hamilton, P. W. Mason, J. F. McElroy, and G. N. Wade</i>	R389
Interaction between CRF and angiotensin II in control of ACTH and adrenal steroids <i>M. Keller-Wood, B. Kimura, J. Shinsako, and M. I. Phillips</i>	R396
Absence of fast negative feedback control of ACTH and renin in fetal and adult sheep <i>C. E. Wood</i>	R403
Regulation of hepatic glucose output during exercise by circulating glucose and insulin in humans <i>A. B. Jenkins, S. M. Furler, D. J. Chisholm, and E. W. Kraegen</i>	R411
Stimulating fastigial nucleus pressor region elicits patterned respiratory responses <i>L. O. Lutherer and J. L. Williams</i>	R418
Effect of restriction of placental growth on umbilical and uterine blood flows <i>J. A. Owens, J. Falconer, and J. S. Robinson</i>	R427
Renal afferent input to thoracolumbar spinal neurons of the cat <i>W. S. Ammons</i>	R435
Osmotic regulation of plasma vasopressin and oxytocin after sustained hyponatremia <i>J. G. Verbalis, E. F. Baldwin, and A. G. Robinson</i>	R444
Mammalian metabolite flux rates in a teleost: lactate and glucose turnover in tuna <i>J.-M. Weber, R. W. Brill, and P. W. Hochachka</i>	R452
Diffusion permeability of cyanocobalamin in human placenta <i>D. M. Willis, J. P. O'Grady, J. J. Faber, and K. L. Thornburg</i>	R459
Substance P, 5-hydroxytryptamine, and bradykinin stimulate abdominal visceral afferents <i>W. Y. W. Lew and J. C. Longhurst</i>	R465
Electrical activity and sodium transfer across in vitro pig placenta <i>C. P. Sibley, B. S. Ward, J. D. Glazier, W. M. O. Moore, and R. D. H. Boyd</i>	R474
Sympathetic activity, lipids accumulation, and arterial wall morphology in rabbits at high altitude <i>K. Fronek and N. Alexander</i>	R485
Development of mammalian endocochlear potential: normal ontogeny and effects of anoxia <i>N. K. Woolf, A. F. Ryan, and J. P. Harris</i>	R493
Regional circulatory responses to hypocapnia and hypercapnia in bar-headed geese <i>F. M. Faraci and M. R. Fedde</i>	R499

pH-induced hysteretic properties of phosphofructokinase purified from rat myocardium <i>S. C. Hand and J. F. Carpenter</i>	R505
Reversible dissociation and inactivation of phosphofructokinase in the ischemic rat heart <i>J. F. Carpenter and S. C. Hand</i>	R512
Plasma clearance, metabolism, and tissue accumulation of ³ H-labeled catecholamines in trout <i>N. P. Nekvasil and K. R. Olson</i>	R519
Extraction and metabolism of circulating catecholamines by the trout gill <i>N. P. Nekvasil and K. R. Olson</i>	R526
Angiotensin extraction by trout tissues in vivo and metabolism by the perfused gill <i>K. R. Olson, D. Kullman, A. J. Narkates, and S. Oparil</i>	R532

No. 4. APRIL 1986

Pre- and postabsorptive insulin secretion in chronic decerebrate rats <i>F. W. Flynn, K. C. Berridge, and H. J. Grill</i>	R539
Extra-abdominal pressure alters food intake, intragastric pressure, and gastric emptying rate <i>A. Geliebter, S. Westreich, R. N. Pierson, Jr., and T. B. Van Itallie</i>	R549
Effect of amine on temperature-responsive neuron in slice preparation of rat brain stem <i>T. Watanabe, A. Morimoto, and N. Murakami</i>	R553
Stimulation of ventromedial hypothalamus induces cold defense responses in conscious rabbits <i>A. Morimoto, N. Murakami, T. Ono, T. Watanabe, and Y. Sakata</i>	R560
Enhanced noradrenergic activity in kidney of Brattleboro rats with diabetes insipidus <i>R. L. Kline, K. P. Patel, and P. F. Mercer</i>	R567
Reoxygenation injury in isolated hepatocytes: effect of extracellular ATP on cation homeostasis <i>H. Hayashi, I. H. Chaudry, M. G. Clemens, M. J. Hull, and A. E. Baue</i>	R573
Excitatory and inhibitory interactions among renal and cardiovascular afferent nerves in dorsomedial medulla <i>R. B. Felder</i>	R580
Effect of atrial natriuretic factor in rat pregnancy <i>C. G. Kristensen, Y. Nakagawa, F. L. Coe, and M. D. Lindheimer</i>	R589
Effect of adrenalectomy and glucocorticoid replacement on development of obesity <i>M. R. Freedman, B. A. Horwitz, and J. S. Stern</i>	R595
Renal proximal tubule of flounder. I. Physiological properties <i>K. W. Beyenbach, D. H. Petzel, and W. H. Cliff</i>	R608
Renal proximal tubule of flounder. II. Transepithelial Mg secretion <i>W. H. Cliff, D. B. Sawyer, and K. W. Beyenbach</i>	R616
Effects of testosterone, estradiol, and temperature on neurons in preoptic tissue slices <i>N. L. Silva and J. A. Boulant</i>	R625
Suppression of renin release by antagonism of endogenous opiates in the dog <i>J. E. Szilagyi, J. Chelly, and M.-F. Doursout</i>	R633
Canine renal responses to atrial stretch or intravenous saline are not attenuated at night <i>K. L. Goetz and B. C. Wang</i>	R638
Osmotic and volemic regulation of plasma arginine vasotocin in conscious domestic fowl <i>J. N. Stallone and E. J. Braun</i>	R644
Regulation of plasma arginine vasotocin in conscious water-deprived domestic fowl <i>J. N. Stallone and E. J. Braun</i>	R658
Physical and metabolic correlates of sexual inactivity in aged male mice <i>F. H. Bronson and C. Desjardins</i>	R665
Dose-related suppression of feeding by intraportal glucagon infusion in the rat <i>B. G. Weick and S. Ritter</i>	R676
Glucagon-induced inhibition of feeding is impaired by hepatic portal alloxan injection <i>S. Ritter, S. C. Weatherford, and S. L. Stone</i>	R682
Proteolytic enzymes in human eccrine sweat: a screening study <i>N. Horie, H. Yokozeki, and K. Sato</i>	R691

Critical radius of endotherms <i>W. P. Porter, D. F. Parkhurst, and P. A. McClure</i>	R699
Response of hamster circadian system to transitions between light and darkness <i>H. E. Albers</i>	R708
Renal secretion of amino acids in ophidian reptiles <i>S. Benyajati and W. H. Dantzler</i>	R712

RAPID COMMUNICATIONS

Resetting of mammalian respiratory rhythm: existence of a phase singularity <i>D. Paydarfar, F. L. Eldridge, and J. P. Kiley</i>	R721
Intravascular pulmonary macrophages: a novel cell removes particles from blood <i>A. E. Warner and J. D. Brain</i>	R728

LETTERS TO THE EDITOR

Senescence and baroreflex control <i>M. C. Andresen; J. Y. Wei</i>	R733
---	------

No. 5. MAY 1986

BOWDITCH LECTURE

Introduction	R735
Physiology of the circadian timing system: predictive versus reactive homeostasis <i>M. C. Moore-Ede</i>	R737

EDITORIAL REVIEW

Secretory NaCl and volume flow in renal tubules <i>K. W. Beyenbach</i>	R753
Inhibition of gastric emptying and feeding by fenfluramine <i>P. H. Robinson, T. H. Moran, and P. R. McHugh</i>	R764
Sympathetic nervous system and blood pressure maintenance in the Brattleboro DI rat <i>J. L. Williams, Jr., and M. D. Johnson</i>	R770
Rat endogenous pyrogen and fever <i>A. Morimoto, T. Watanabe, T. Ono, Y. Sakata, and N. Murakami</i>	R776
Development of bronchiolar epithelium in rats <i>G. D. Massaro and D. Massaro</i>	R783
Effects of human atrial natriuretic peptide on renal function and vasopressin release <i>T. Kimura, K. Abe, M. Shoji, K. Tsunoda, K. Matsui, K. Ota, M. Inoue, M. Yasujima, and K. Yoshinaga</i>	R789
Sensitivity of cortisol-induced inhibition of ACTH and renin in fetal sheep <i>C. E. Wood</i>	R795
Central administration of α -MSH antiserum augments fever in the rabbit <i>S. T. Shih, O. Khorram, J. M. Lipton, and S. M. McCann</i>	R803
Control of ingestion in 6-day-old rat pups: termination of intake by gastric fill alone? <i>C. B. Phifer, C. R. Sikes, and W. G. Hall</i>	R807
Interaction of bradykinin and prostaglandin E ₁ on cardiac pressor reflex and sympathetic afferents <i>T. Nerdrum, D. G. Baker, H. M. Coleridge, and J. C. G. Coleridge</i>	R815
Energy expenditure by doubly labeled water: validation in humans and proposed calculation <i>D. A. Schoeller, E. Ravussin, Y. Schutz, K. J. Acheson, P. Baertschi, and E. Jéquier</i>	R823
Circannual variations in circadian rhythms of ground squirrels <i>T. M. Lee, M. S. Carmichael, and I. Zucker</i>	R831

Effects of exercise training on regional adipose tissue metabolism in pregnant rats <i>R. Savard, J. E. Palmer, and M. R. C. Greenwood</i>	R837
Energy balance and brown adipose tissue thermogenesis during pregnancy in Syrian hamsters <i>G. N. Wade, G. Jennings, and P. Trayhurn</i>	R845
Effect of fasting interval on CCK-8 suppression of food intake in the baboon <i>L. J. Stein, D. Porte, Jr., D. P. Figlewicz, and S. C. Woods</i>	R851
Intracisternal insulin alters sensitivity to CCK-induced meal suppression in baboons <i>D. P. Figlewicz, L. J. Stein, D. West, D. Porte, Jr., and S. C. Woods</i>	R856
Effects of thyroid hormone replacement on β -adrenergic responsiveness of food-deprived rats <i>C. C. Barney, K. E. Wuertz, and M. J. Katovich</i>	R861
Peripheral circulatory responses to 96 h of hypoxia in conscious sinoaortic-denervated sheep <i>J. A. Krasney, K. Miki, K. McAndrews, G. Hajduczuk, and D. Curran-Everett</i>	R868
Osmotic blood-brain barrier opening to IgM monoclonal antibody in the rat <i>E. A. Neuwelt, J. Minna, E. Frenkel, P. A. Barnett, and C. I. McCormick</i>	R875
Alterations in cellular Ca^{2+} regulation in the liver in endotoxic shock <i>M. M. Sayeed</i>	R884
Cardiac and splenic norepinephrine turnover during septic peritonitis <i>S. B. Jones, M. F. Kovarik, and F. D. Romano</i>	R892
Plasma renin and angiotensin in dehydrated and rehydrated rats <i>R. Di Nicolantonio and F. A. O. Mendelsohn</i>	R898
Respiratory phase locking during mechanical ventilation in anesthetized human subjects <i>C. Graves, L. Glass, D. Laporta, R. Meloche, and A. Grassino</i>	R902
Medullospinal sympathoexcitatory neurons in normotensive and spontaneously hypertensive rats <i>M.-K. Sun and P. G. Guyenet</i>	R910
Independent osmoregulatory control of central and systemic angiotensin II concentrations in dogs <i>C. Simon-Oppermann, D. A. Gray, and E. Simon</i>	R918
Postnatal development of micturition reflex in rats <i>C. A. Maggi, P. Santicioli, and A. Meli</i>	R926
Neurons of C ₁ area mediate cardiovascular responses initiated from ventral medullary surface <i>E. E. Benarroch, A. R. Granata, D. A. Ruggiero, D. H. Park, and D. J. Reis</i>	R932

RAPID COMMUNICATIONS

Atrial stretch increases sodium excretion independently of release of atrial peptides <i>K. L. Goetz, B. C. Wang, P. G. Geer, R. J. Leadley, Jr., and H. W. Reinhardt</i>	R946
--	------

No. 6. JUNE 1986

INVITED REVIEW

Scaling of physiological responses: a new approach for hemorrhagic shock <i>R. J. Connett, F. J. Pearce, and W. R. Drucker</i>	R951
Control of sodium excretion by angiotensin II: intrarenal mechanisms and blood pressure regulation <i>J. E. Hall</i>	R960
Renal opiate receptor mediation of renin secretion to renal nerve stimulation in the dog <i>S. Koyama and H. Hosomi</i>	R973
Effect of intracerebroventricular calcitonin on renal hydromineral excretion in sheep <i>B. H. Appelgren, S. Arver, and G.-B. Sagulin</i>	R980
Ionic requirements of peritubular taurine transport in <i>Fundulus</i> kidney <i>N. A. Wolff, D. F. Perlman, and L. Goldstein</i>	R984

Behavioral fever and therapy in a rickettsia-infected Orthoptera <i>C. Louis, M. Jourdan, and M. Cabanac</i>	R991
Modulation of gastric and arterial pressure by nucleus tractus solitarius in rat <i>S. E. Spencer and W. T. Talman</i>	R996
Control of food intake by fatty acid oxidation <i>E. Scharrer and W. Langhans</i>	R1003
Methionine-enkephalin and vasopressin in SHR: effects of dehydration <i>K. Ota, L. Share, J. T. Crofton, and D. P. Brooks</i>	R1007
Changes in blood pressure and extracellular fluid with taurine in DOCA-salt rats <i>T. Fujita and Y. Sato</i>	R1014
Ventricular efficiency predicted by an analytical model <i>D. Burkhoff and K. Sagawa</i>	R1021
Reduced osmotic and nonosmotic release of vasopressin after meclofenamate in the conscious dog <i>B. R. Walker, A. L. Erickson, P. E. Arnold, T. J. Burke, and T. Berl</i>	R1028
Angiotensin-stimulated drinking in marine fish <i>D. Beasley, D. N. Shier, R. L. Malvin, and G. Smith</i>	R1034
Effects of aging on prostate growth in beagles <i>S. J. Berry, D. S. Coffey, and L. L. Ewing</i>	R1039
Maintenance of carotid baroreflex function in advanced age in the rat <i>J. Y. Wei, D. Mendelowitz, N. Anastasi, and J. W. Rowe</i>	R1047
Ablation of subfornical organ does not prevent angiotensin-induced water drinking in sheep <i>M. J. McKinley, D. A. Denton, R. G. Park, and R. S. Weisinger</i>	R1052
Adrenergic influence on hormonal and hepatic metabolic response to exercise in rats <i>C. A. Tate, N. M. Scherer, and G. Stewart</i>	R1060
Lack of involvement of GABA in baroreceptor-mediated sympathoinhibition <i>R. B. McCall</i>	R1065
Mechanical effects of vasoactive drugs on carotid sinus <i>L. B. Bell, J. L. Seagard, E. J. Zuperku, and J. P. Kampine</i>	R1074
Nucleus paragigantocellularis lateralis and lumbar sympathetic discharge in the rat <i>P. G. Guyenet and D. L. Brown</i>	R1081
Thoracic duct lymph flow in pregnant sheep and response to blood volume expansion <i>G. Valenzuela, L. L. Woods, and R. A. Brace</i>	R1095
Uteroplacental O ₂ uptake: continuous measurements during uterine quiescence and contractions <i>L. D. Longo, P. S. Dale, and R. D. Gilbert</i>	R1099
Dietary obesity: brown fat denervation fails to alter development or recovery <i>J. E. Cox and J. F. Lorden</i>	R1108
Mechanisms of hemodynamic responses to electrical stimulation of subfornical organ <i>M. L. Mangiavane and M. J. Brody</i>	R1117

MODELING METHODOLOGY FORUM

Regulation of interacting populations during endocytosis: models of growth factor-tumor promoter dynamics <i>M. Gex-Fabry and C. DeLisi</i>	R1123
--	-------

RAPID COMMUNICATIONS

Effect of relative shell size in turtles on water and electrolyte composition <i>W. A. Dunson and H. Heatwole</i>	R1133
--	-------

<i>Subject Index to Volume 19</i>	R1139
<i>Author Index to Volume 19</i>	R1149

American Journal of Physiology: Renal, Fluid and Electrolyte Physiology

No. 1. JANUARY 1986

EDITORIAL REVIEW

Structural-functional relationships along the distal nephron <i>K. M. Madsen and C. C. Tisher</i>	F1
Tubuloglomerular feedback responses with native and artificial tubular fluid <i>J. Schnermann, G. Schubert, and J. Briggs</i>	F16
Neurogenic regulation of proximal bicarbonate and chloride reabsorption <i>M. G. Cogan</i>	F22
Atrialpeptin III increases cGMP in glomeruli but not in proximal tubules of dog kidney <i>T. J. Stokes, Jr., C. L. McConkey, Jr., and K. J. Martin</i>	F27
Renal hemodynamics and arterial pressure during chronic intrarenal adenosine infusion in conscious dogs <i>J. E. Hall and J. P. Granger</i>	F32
Effects of blood viscosity on plasma renin activity and renal hemodynamics <i>S. Simchon, R. Y. Z. Chen, R. D. Carlin, F.-C. Fan, K.-M. Jan, and S. Chien</i>	F40
Alteration of chloride secretion across canine tracheal epithelium by lipoxygenase products of arachidonic acid <i>G. D. Leikauf, I. F. Ueki, J. H. Widdicombe, and J. A. Nadel</i>	F47
Importance of the kidney in the correction of chloride-depletion alkalosis in the rat <i>D. M. Craig, J. H. Galla, D. N. Bonduris, and R. G. Luke</i>	F54
PGI ₂ synthesis and excretion in dog kidney: evidence for renal PG compartmentalization <i>R. M. Boyd, A. Nasjletti, P. M. Heerd, and P. G. Baer</i>	F58
Lack of a direct effect of atrial natriuretic factor in the rabbit proximal tubule <i>M. Baum and R. D. Toto</i>	F66
Conductive properties of the rabbit outer medullary collecting duct: outer stripe <i>B. M. Koeppen</i>	F70
Glomerular blood flow after single nephron obstruction in the rat kidney <i>G. A. Tanner and L. C. Knopp</i>	F77
Filtration by superficial and deep glomeruli of normovolemic and volume-depleted rats <i>R. V. Pinnick and V. J. Savin</i>	F86
Role of the vasoconstrictor and antidiuretic activities of vasopressin in inhibition of renin secretion in conscious dogs <i>J. Schwartz and I. A. Reid</i>	F92
Effect of indomethacin on papillary solute concentration in the potassium-deficient rat <i>Y. Takamitsu and R. T. Kunau, Jr.</i>	F97
α_2 -Adrenoceptor stimulation and cellular cAMP levels in microdissected rat glomeruli <i>S. Umemura, D. D. Smyth, and W. A. Pettinger</i>	F103
Effects of ouabain on autoregulation of renal blood flow in dogs <i>T. Tamaki, K. Fukui, S. Fujioka, H. Iwao, T. Okahara, and Y. Abe</i>	F109
Effect of buffer infusion during acute respiratory acidosis <i>H. H. Bengel, J. H. Schwartz, E. R. McNamara, and E. A. Alexander</i>	F115
Patterns of K ⁺ permeation following inhibition of Na ⁺ transport in rabbit cortical collecting tubule <i>J. B. Stokes</i>	F120
PGE ₂ , forskolin, and cholera toxin interactions in rabbit cortical collecting tubule <i>S. P. Nadler, S. C. Hebert, and B. M. Brenner</i>	F127
Ureteral occlusion decreases phospholipid and cholesterol of renal tubular membranes <i>J. Morrissey, D. Windus, S. Schwab, J. Tannenbaum, and S. Klahr</i>	F136

Sites of insulin and glucagon metabolism in the rabbit nephron <i>R. Nakamura, M. Hayashi, D. S. Emmanouel, and A. I. Katz</i>	F144
Dynamics of nucleotides in distal nephron of mice with nephrogenic diabetes insipidus <i>E. Kusano, A. N. K. Yusufi, N. Murayama, J. Braun-Werness, and T. P. Dousa</i>	F151
Fluorescence identifies an alkaline cell in turtle urinary bladder <i>M. L. Graber, T. E. Dixon, D. Coachman, K. Herring, A. Ruenes, T. Gardner, and E. Pastoriza-Munoz</i>	F159

SPECIAL COMMUNICATIONS

Can causality be determined from proximal tubular reabsorption and peritubular physical factors? <i>B. J. Tucker, C. A. Mundy, and R. C. Blantz</i>	F169
--	------

RAPID COMMUNICATIONS

Effect of osmolality on cation fluxes in medullary thick ascending limb cells <i>J. L. Eveloff and J. Calamia</i>	F176
--	------

No. 2. FEBRUARY 1986

EDITORIAL REVIEW

Roles of urea production, ammonium excretion, and amino acid oxidation in acid-base balance <i>M. Walser</i>	F181
---	------

Extrinsic innervation of the rat kidney: a retrograde tracing study <i>V. H. Gattone II, C. F. Marfurt, and S. Dallie</i>	F189
Role of the renal kinin-prostaglandin system in diltiazem-induced natriuresis <i>M. Seino, K. Abe, N. Nushiro, K. Omata, K. Sato, K. Tsunoda, and K. Yoshinaga</i>	F197
Measurement of intracellular pH with microelectrodes in rat kidney in vivo <i>R. M. Henderson, P. B. Bell, R. D. Cohen, C. Browning, and R. A. Iles</i>	F203
Localization of binding sites for α -rat atrial natriuretic polypeptide in rat kidney <i>C. Koseki, Y. Hayashi, S. Torikai, M. Furuya, N. Ohnuma, and M. Imai</i>	F210
Parathyroid hormone inhibition of $\text{Na}^+\text{-H}^+$ antiporter activity in a cultured renal cell line <i>A. S. Pollock, D. G. Warnock, and G. J. Strewler</i>	F217
Sensitivity of rat renal luminal and contraluminal sulfate transport systems to DIDS <i>C. Bästlein and G. Burckhardt</i>	F226
Sodium absorption and potassium secretion in rabbit colon during sodium deficiency <i>K. Turnheim, H. Plass, M. Grasl, P. Krivanek, and H. Wiener</i>	F235
Transport of solute in proximal tubules is modified by changes in medium osmolality <i>J. C. Williams, Jr., D. W. Barfuss, and J. A. Schafer</i>	F246
Effect of secretin on glomerular dynamics in dogs <i>G. R. Marchand</i>	F256
pH sensitivity of the basolateral membrane of the rabbit proximal tubule <i>B. A. Biagi and M. Sohtell</i>	F261
Electrophysiology of basolateral bicarbonate transport in the rabbit proximal tubule <i>B. A. Biagi and M. Sohtell</i>	F267
Stimulation of apical Na permeability and basolateral Na pump of toad urinary bladder by aldosterone <i>L. G. Palmer and N. Speez</i>	F273
Thromboxane synthetase inhibition improves function of hydronephrotic rat kidneys <i>P. E. Klotman, S. R. Smith, B. D. Volpp, T. M. Coffman, and W. E. Yarger</i>	F282

Dissociation of CO ₂ hydration and renal acid secretion in the dogfish, <i>Squalus acanthias</i> <i>E. R. Swenson and T. H. Maren</i>	F288
Effects of renal denervation on renal responses to hypoxemia in fetal lambs <i>J. E. Robillard, K. T. Nakamura, and G. F. DiBona</i>	F294
Effects of dietary alteration of bicarbonate and magnesium on rat bone <i>J. M. Burnell, C. Liu, A. G. Miller, and E. Teubner</i>	F302
Angiotensin II inhibition on blood pressure and renal hemodynamics in pregnant rats <i>C. Baylis and R. C. Collins</i>	F308
Role of volume depletion in the glycerol model of acute renal failure <i>H. M. Cushner, J. L. Barnes, J. H. Stein, and H. J. Reineck</i>	F315
Cholinergic stimulation of the hypothalamus and natriuresis in rats: role of the renal nerves <i>C. R. Silva-Netto, R. H. Jackson, and R. E. Colindres</i>	F322
Cytosolic free calcium concentration in cultured renal epithelial cells <i>J. V. Bonventre and J. Y. Cheung</i>	F329
Characterization of the apical membrane ionic permeability of the rabbit proximal convoluted tubule <i>J.-Y. Lapointe, R. Laprade, and J. Cardinal</i>	F339
Angiotensin II and eicosanoids in the control of glomerular size in the rat and human <i>L. A. Scharschmidt, J. G. Douglas, and M. J. Dunn</i>	F348
Adenine nucleotide metabolism and mitochondrial Ca ²⁺ transport following renal ischemia <i>P. E. Arnold, V. J. Van Putten, D. Lumlertgul, T. J. Burke, and R. W. Schrier</i>	F357
Frequency domain analysis of renal autoregulation in the rat <i>T. Sakai, E. Hallman, and D. J. Marsh</i>	F364

RAPID COMMUNICATIONS

Intrarenal localization of angiotensinogen mRNA by RNA-DNA dot-blot hybridization <i>T. A. Fried and E. A. Simpson</i>	F374
---	------

No. 3. MARCH 1986

EDITORIAL REVIEW

Patch-clamp technique in renal physiology <i>L. G. Palmer</i>	F379
Indirect immunoselection of late distal cell populations from rabbit kidney cortex <i>A. Vandewalle, M. Tauc, F. Cluzeaud, P. Ronco, F. Chatelet, P. Verroust, and P. Poujeol</i>	F386
Inhibition of Ca absorptive flux by chlorthalidone in the rat duodenum and colon <i>U. Gafer, K. Lau, J. Garno, and S. Kathpalia</i>	F396
Effect of amiloride upon urinary and renal kallikrein in the rat <i>H. R. Croxatto, J. Corthorn, J. Roblero, P. Villalon, and F. Perez</i>	F400
N ¹ -methylnicotinamide transport by isolated perfused snake proximal renal tubules <i>W. H. Dantzler and O. H. Brokl</i>	F407
Electrogenic Na ⁺ -independent P _i transport in canine renal basolateral membrane vesicles <i>S. J. Schwab and M. R. Hammerman</i>	F419
Effect of renal perfusion pressure on sodium reabsorption from proximal tubules of superficial and deep nephrons <i>J. A. Haas, J. P. Granger, and F. G. Knox</i>	F425
Functional heterogeneity in the early distal tubule of the <i>Amphiuma</i> kidney: evidence for two modes of Cl ⁻ and K ⁺ transport across the basolateral cell membrane <i>W. B. Guggino</i>	F430

Effects of increase in plasma calcium concentration on renal handling of NaCl and NaHCO ₃ <i>O. Mercier, A. Prigent, M. Bichara, M. Paillard, and F. Leviet</i>	F441
Phorbol ester-induced alkalization of canine renal proximal tubular cells <i>J. Mellas and M. R. Hammerman</i>	F451
Chronic effects of vasopressin on plasma renin activity in sodium-restricted dogs <i>D. C. Merrill and A. W. Cowley, Jr.</i>	F460
Increased transport of inorganic phosphate in renal brush borders of spontaneously hypertensive rats <i>R. J. M. Bindels, J. A. M. Geertsens, and C. H. Van Os</i>	F470
Microperfusion study of proximal tubule bicarbonate transport in maleic acid-induced renal tubular acidosis <i>N. Bank, H. S. Aynedjian, and B. F. Mutz</i>	F476
K ⁺ transport by rat colon: adaptation to a low potassium diet <i>R. L. Tannen, R. Marino, and D. C. Dawson</i>	F483
Role of thromboxane in control of arterial pressure and renal function in young spontaneously hypertensive rats <i>H.-J. Grone, R. S. Grippo, W. J. Arendshorst, and M. J. Dunn</i>	F488
Ammonium as a substrate for Na ⁺ -K ⁺ -ATPase in rabbit proximal tubules <i>I. Kurtz and R. S. Balaban</i>	F497
Effects of ouabain, amiloride, monesin, and other agents on ovine parotid saliva <i>R. D. Wright, J. R. Blair-West, and J. F. Nelson</i>	F503
Evidence that prostaglandin E ₂ stimulates chloride secretion in cultured A6 renal epithelial cells <i>R. Keeler and N. L. M. Wong</i>	F511
Stoichiometry of sodium chloride transport by rectal gland of <i>Squalus acanthias</i> <i>P. Silva and M. A. Myers</i>	F516
Relationship between renal hemodynamic and natriuretic effects of atrial natriuretic factor <i>R. E. Sosa, M. Volpe, D. N. Marion, S. A. Atlas, J. H. Laragh, E. D. Vaughan, Jr., and T. Maack</i>	F520
Prostaglandins may mediate chloride concentration gradient across domes formed by MDCK ₁ cells <i>M. D. Lifschitz</i>	F525
Parathyroid hormone inhibits water flow in the isolated toad bladder <i>S. Sabatini</i>	F532
Characteristics of the Na ⁺ -H ⁺ antiporter in the intact renal proximal tubular cell <i>E. P. Nord, D. Goldfarb, N. Mikhail, P. Moradeshagi, A. Hafezi, S. Vaystub, E. J. Cragoe, Jr., and L. G. Fine</i>	F539
Body sodium in rats: response to DOCA, adrenalectomy, changes in salt intake, and a salt load <i>F. O. Simpson, J. M. Ledingham, J. M. Paulin, and R. D. Purves</i>	F551
Effects of graded changes in reflex renal nerve activity on renal function <i>E. T. Beers, R. G. Carroll, D. B. Young, and A. C. Guyton</i>	F559
Effect of intermittent feeding on renal hemodynamics in conscious rats <i>J. J. Gehrig, Jr., R. L. Jamison, C. Baylis, J. L. Troy, B. M. Brenner, and R. L. Jamison</i>	F566

RAPID COMMUNICATIONS

Localization of atrial natriuretic peptide binding sites within the rat kidney <i>D. P. Healy and D. D. Fanestil</i>	F573
---	------

No. 4. APRIL 1986

EDITORIAL REVIEW

Role of calcium in pathogenesis of acute renal failure <i>H. D. Humes</i>	F579
--	------

Electrolyte handling by the superficial nephron of the rabbit <i>N. L. M. Wong, S. J. Whiting, C. L. Mizgala, and G. A. Quamme</i>	F590
Dexamethasone and hydrogen peroxide production by mesangial cells during phagocytosis <i>L. Baud, J. Perez, and R. Ardaillou</i>	F596
Is urea formation regulated primarily by acid-base balance in vivo? <i>M. L. Halperin, C. B. Chen, S. Cheema-Dhadli, M. L. West, and R. L. Jungas</i>	F605
Human renal response to a meat meal <i>T. H. Hostetter</i>	F613
Reversal of renal and smooth muscle actions of the thromboxane mimetic U-44069 by diltiazem <i>R. Loutzenhiser, M. Epstein, C. Horton, and P. Sonke</i>	F619
Ascorbic acid transport in mammalian kidney <i>R. C. Rose</i>	F627
Water permeability and fluidity of renal basolateral membranes <i>A. S. Verkman and H. E. Ives</i>	F633
Evidence for electroneutral sodium chloride transport in rat proximal convoluted tubule <i>K. J. Howlin, R. J. Alpern, C. A. Berry, and F. C. Rector, Jr.</i>	F644
Serine synthesis in rat kidney: studies with perfused kidney and cortical tubules <i>M. Lowry, D. E. Hall, and J. T. Brosnan</i>	F649
Phosphorylation of type II cAMP-dependent protein kinase in renal brush border membranes <i>M. R. Hammerman</i>	F659
Renal mitochondrial glutamine metabolism during K ⁺ depletion <i>S. Sastrasinh and M. Sastrasinh</i>	F667
Neural not tubular dopamine increases glomerular filtration rate in perfused rat kidneys <i>A. D. Baines and R. Drangova</i>	F674
Dependence of ion fluxes on fluid transport by rat proximal tubule <i>K. Bomszyk and F. S. Wright</i>	F680
Chronic metabolic acidosis augments acidification along the inner medullary collecting duct <i>H. H. Bengel, J. H. Schwartz, E. R. McNamara, and E. A. Alexander</i>	F690
Calcium channel blockers enhance extrarenal potassium disposal in the rat <i>A. Sugarman and T. Kahn</i>	F695
Amelioration of hypoxia-induced lactic acidosis by superimposed hypercapnea or hydrochloric acid infusion <i>S. Abu Romeh and R. L. Tannen</i>	F702
Atrial natriuretic factor can increase renal solute excretion primarily by raising glomerular filtration <i>M. G. Cogan</i>	F710
Tubuloglomerular feedback responses in the rat during calmodulin inhibition <i>P. D. Bell</i>	F715
Increases of cell ATP produced by exogenous adenine nucleotides in isolated rabbit kidney tubules <i>J. M. Weinberg and H. D. Humes</i>	F720
Occluding junctions in a renal cell line (LLC-PK ₁) with characteristics of proximal tubular cells <i>C. A. Rabito</i>	F734

SPECIAL COMMUNICATIONS

A servo-system for constant pressure perfusion of the isolated rat kidney <i>R. C. Scaduto, Jr. and A. C. Schoolwerth</i>	F744
--	------

RAPID COMMUNICATIONS

Atrial natriuretic factor: reduced cardiac content in cirrhotic rats with ascites <i>W. Jiménez, A. Martínez-Pardo, V. Arroyo, J. Gaya, F. Rivera, and J. Rodés</i>	F749
--	------

No. 5. MAY 1986

EDITORIAL REVIEW

Angiotensin-receptor signaling in cultured vascular smooth muscle cells
J. B. Smith

F759

High Ca^{2+} inhibits AVP-dependent cAMP production in thick ascending limbs of Henle
K. Takaichi, S. Uchida, and K. Kurokawa

F770

Regulation and function of arginine vasopressin in pregnant sheep
R. J. Bell, B. M. Laurence, P. J. Meehan, M. Congiu,
B. A. Scoggins, and E. M. Wintour

F777

Aspects of electrolyte transport across isolated dog retinal pigment epithelium
S. Tsuboi, R. Manabe, and S. Iizuka

F781

Dibucaine stimulation of *p*-aminohippurate accumulation in rat kidney cortical slices
M. Nakajima, S. Nakano, and M. Gemba

F785

Dynamic response of PG synthesis to peptide hormones and osmolality
in renal tubular cells

R. P. Wuthrich, R. Loup, L. Favre, and M. B. Vallotton

F790

Effects of atrial natriuretic peptide on renin secretion in nonfiltering kidney
T. J. Ogenorth, J. C. Burnett, Jr., J. P. Granger, and T. A. Scriven

F798

Osmolality, vasopressin-stimulated cAMP, and PGE_2 synthesis
in rat collecting tubule cells

M. Sato and M. J. Dunn

F802

Synergistic action of angiotensin II on norepinephrine-induced prostaglandin release
from rat glomeruli

Y. Matsumura, Y. Ozawa, H. Suzuki, and T. Saruta

F811

Characteristics of the proton pump in rat renal cortical endocytotic vesicles
I. Sabolić and G. Burckhardt

F817

Glucocorticoids and metabolic acidosis-induced renal transports of inorganic phosphate,
calcium, and NH_4

M. Boross, J. Kinsella, L. Cheng, and B. Sacktor

F827

Postischemic ATP-MgCl₂ provides precursors for resynthesis of cellular ATP in rats
M. E. Stromski, K. Cooper, G. Thulin, M. J. Avison, K. M. Gaudio,
R. G. Shulman, and N. J. Siegel

F834

Effects of leukotrienes on isolated rat glomeruli and cultured mesangial cells
R. Barnett, P. Goldwasser, L. A. Scharschmidt, and D. Schlondorff

F838

Time-dependent attenuation of water flow in antidiuretic hormone-treated toad bladder
W. A. Kachadorian, J. Muller, and S. J. Ellis

F845

Na^+ - K^+ pump stoichiometry and basolateral membrane permeability
of frog corneal epithelium

O. A. Candia and P. Cook

F850

A mathematical model of the rat proximal tubule
A. M. Weinstein

F860

Osmotic diuresis in a mathematical model of the rat proximal tubule
A. M. Weinstein

F874

Unidirectional potassium fluxes in renal distal tubule: effects of chloride and barium
D. H. Ellison, H. Velázquez, and F. S. Wright

F885

Prostaglandin blockade impairs denervation diuresis and natriuresis in the rat
J. D. Barber, W. W. Harrington, N. G. Moss, and C. W. Gottschalk

F895

Effect of albumin on glomerular ultrafiltration coefficient
in isolated perfused dog glomerulus

T. A. Fried, R. N. McCoy, R. W. Osgood, and J. H. Stein

F901

Renal escape from vasopressin: role of pressure diuresis
J. E. Hall, J.-P. Montani, L. L. Woods, and H. L. Mizelle

F907

Adenosine alters glomerular filtration control by angiotensin II <i>J. E. Hall and J. P. Granger</i>	F917
Effects of hypercalcemia and parathyroid hormone on blood pressure in normal and renal-failure rats <i>K. Iseki, S. G. Massry, and V. M. Campese</i>	F924
Diurnal potassium excretory cycles in the rat <i>L. Rabinowitz, C. J. Wydner, K. M. Smith, and H. Yamauchi</i>	F930
Possible role of calcium in parathyroid hormone actions in rabbit renal proximal tubules <i>N. Yanagawa and O. D. Jo</i>	F942

LETTERS TO THE EDITOR

Renal α -adrenoceptors and sodium excretion <i>G. F. DiBona, R. D. Fildes, G. M. Eisner, and P. A. Jose</i>	F949
---	------

No. 6. JUNE 1986

EDITORIAL REVIEW

Electrophysiology of sodium-coupled transport in proximal renal tubules <i>F. Lang, G. Messner, and W. Rehwald</i>	F953
Atrial natriuretic factor inhibits sodium transport in medullary collecting duct <i>H. Sonnenberg, U. Honrath, C. K. Chong, and D. R. Wilson</i>	F963
Increased tubuloglomerular feedback activity in Milan hypertensive rats <i>U. Boberg and A. E. G. Persson</i>	F967
Handling of dopamine and dopamine sulfate by isolated perfused rat kidney <i>N. T. Buu, J. Duhaime, and O. Kuchel</i>	F975
Prostaglandin E_2 but not I_2 restores furosemide response in indomethacin-treated rats <i>K. A. Kirchner, C. J. Martin, and J. D. Bower</i>	F980
Angiotensin II inhibition with captopril on plasma ADH, PG synthesis, and renal function in humans <i>M. Usberti, G. Di Minno, B. Ungaro, B. Cianciaruso, S. Federico, G. Ardillo, A. Gargiulo, F. Martucci, M. Pannain, A. M. Cerbone, G. Conte, C. Pecoraro, and V. E. Andreucci</i>	F986
Mitochondrial alteration in cisplatin-induced acute renal failure <i>J. A. Gordon and V. H. Gattone II</i>	F991
Interaction between epinephrine and renal nerves in control of renin secretion rate <i>U. C. Kopp and G. F. DiBona</i>	F999
Increased PGE_2 excretion by dDAVP in humans depends on state of hydration <i>U. Schwertschlag, J. G. Gerber, J. S. Barnes, and A. S. Nies</i>	F1008
Effects of diuretic drugs on Na, Cl, and K transport by rat renal distal tubule <i>H. Velázquez and F. S. Wright</i>	F1013
Tubuloglomerular feedback control of distal fluid delivery: effect of extracellular volume <i>L. C. Moore and J. Mason</i>	F1024
Dopamine receptors modulate sodium excretion in denervated kidney <i>P. A. Jose, R. A. Felder, R. R. Holloway, and G. M. Eisner</i>	F1033
Effect of respiratory acidosis on intracellular pH of the proximal tubule <i>B. Trivedi and R. L. Tannen</i>	F1039
Chloride transport by rat renal proximal tubule: effects of bicarbonate absorption <i>K. Bomsztyk</i>	F1046
Activities of cathepsins B and L in isolated nephron segments from proteinuric and nonproteinuric rats <i>C. J. Olbricht, J. K. Cannon, L. C. Garg, and C. C. Tisher</i>	F1055
Effect of ADH on rubidium transport in isolated perfused rat cortical collecting tubules <i>J. A. Schafer and S. L. Troutman</i>	F1063
Phorbol ester-stimulated phosphorylation of basolateral membranes from canine kidney <i>M. R. Hammerman, S. Rogers, J. J. Morrissey, and J. R. Gavin III</i>	F1073

Dissociation of urinary kallikrein activity and salt and water excretion in the rat <i>D. M. Pollock, M. I. Butterfield, J.-L. Ader, and W. J. Arendshorst</i>	F1082
Ion microprobe determination of bone surface elements: effects of reduced medium pH <i>D. A. Bushinsky, R. Levi-Setti, and F. L. Coe</i>	F1090
Endotoxemic acute renal failure in awake rats <i>D. Kikeri, J. P. Pennell, K. H. Hwang, A. I. Jacob, A. V. Richman, and J. J. Bourgoignie</i>	F1098

MODELING METHODOLOGY FORUM

Role of topology in bioenergetics of sodium transport in complex epithelia <i>E. G. Huf and D. C. Mikulecky</i>	F1107
--	-------

RAPID COMMUNICATIONS

Effect of atriopeptin II on determinants of glomerular filtration rate in the in vitro perfused dog glomerulus <i>T. A. Fried, R. N. McCoy, R. W. Osgood, and J. H. Stein</i>	F1119
Production on platelet-activating factor in glomeruli and cultured glomerular mesangial cells <i>D. Schlondorff, P. Goldwasser, R. Neuwirth, J. A. Satriano, and K. L. Clay</i>	F1123

LETTERS TO THE EDITOR

Ureagenesis and pH homeostasis <i>D. E. Atkinson; M. Walser</i>	F1128
--	-------

<i>Subject Index to Volume 19</i>	F1131
<i>Author Index to Volume 19</i>	F1141

CORRIGENDA

Volume 249, December 1985
Volume 18, December 1985

Pages F789-F798: Andrew M. Kahn and Edward J. Weinman. "Urate transport in the proximal tubule: in vivo and vesicle studies." Page F793 (right column, bottom of page): "Fig. 3" and "Fig. 4" are reversed.

Volume 250, January 1986
Volume 19, January 1986

Pages F1-F15: Kirsten M. Madsen and C. Craig Tisher. "Structural-functional relationships along the distal nephron." Because of the disappointing quality of the electromicrographs, this article is reprinted here.

Volume 249, December 1985
Volume 18, December 1985

Pages F842-F850: John N. Stallone and Eldon J. Braun. "Contributions of glomerular and tubular mechanisms to antidiuresis in conscious domestic fowl." An early version rather than the final version of this article was printed. The corrected article follows.

L
0
6

I

